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Cost-Effectiveness Analysis of Savolitinib versus Glumetinib in the First-Line Treatment of Chinese adult patients with Locally Advanced or Metastatic Non-small Cell Lung Cancer harboring MET Exon 14 Skipping Mutation

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BACKGROUND

- MET exon 14 skipping mutation non-small cell lung cancer (NSCLC) is often associated with advanced disease stage and poor prognosis.
- Both savolitinib and glumetinib are selective MET tyrosine kinase inhibitors (TKIs) often used for this population. However, head-to-head economic evaluations are lacking.

OBJECTIVE

- To evaluate the cost-effectiveness of savolitinib versus glumetinib as a first-line treatment for locally advanced or metastatic MET exon 14 skipping mutation NSCLC from the perspective of the Chinese healthcare system.

METHODS

A cost-effectiveness analysis method was used to simulate the medical costs and health outcomes of patients with MET 14 mutated NSCLC treated with Savolitinib and Glumetinib based on the partitioned survival model.

Model structure

- A three health state partitioned model was performed (Figure 1):

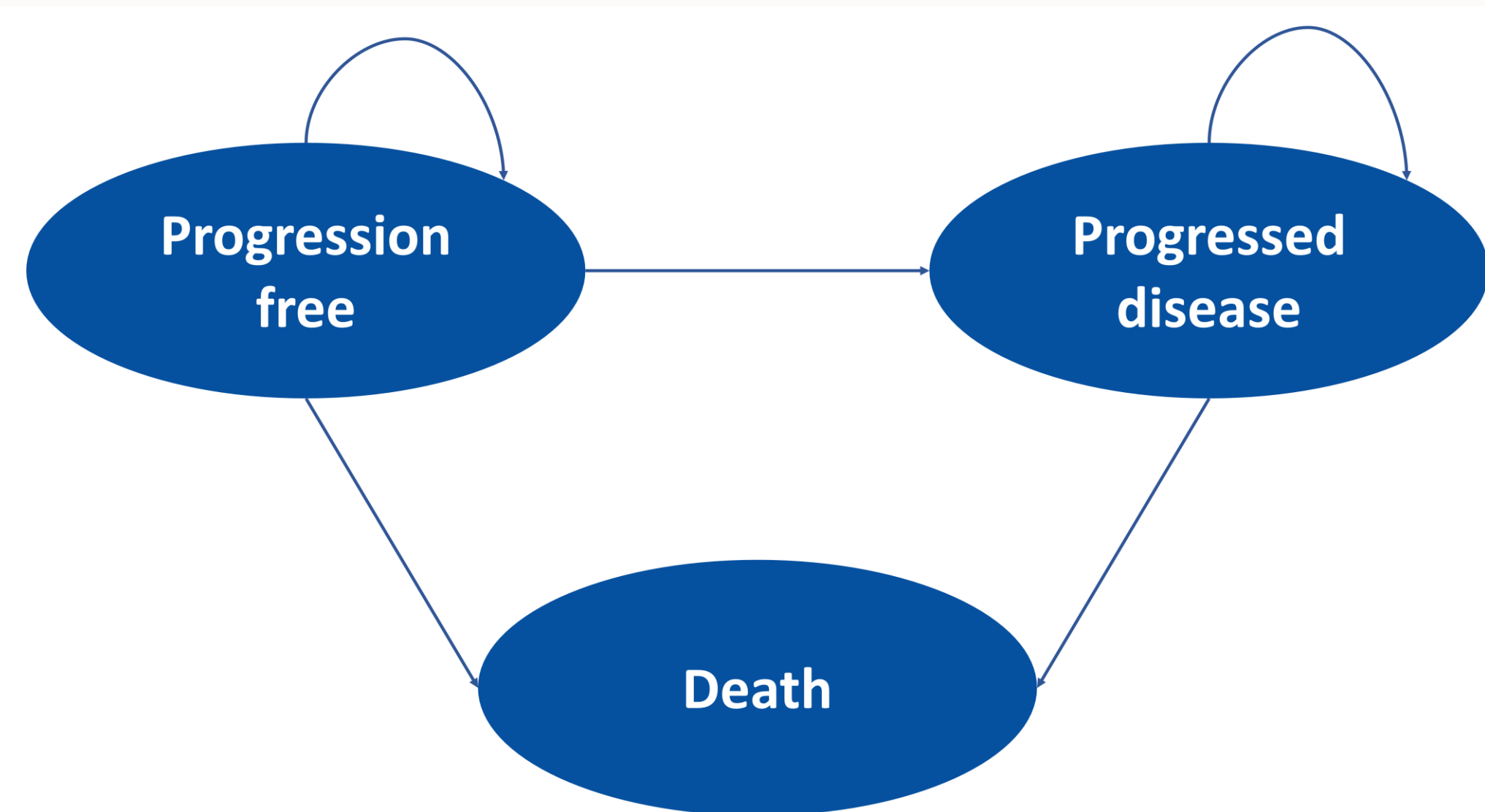


Figure 1. Partitioned Survival Model Structure

Model setting

- Research perspective: China's healthcare system
- Cycle length and time horizon: 30-day cycles over, and five-year time horizon, half-cycle correction
- Discounted rate: 5%
- Willingness to pay (WTP) threshold: 1 times China's per capita GDP (¥ 99,665 /QALY, 2025).

Model Parameters

- Clinical data**
 - Unanchored Matching adjusted indirect comparison
 - In the absence of head-to-head clinical trial, matching adjusted indirect comparison (MAIC) was used for survival analyses.
 - The individual patient data (IPD) for Savolitinib was available from NCT04923945 and the aggregated data (AgD) for Glumetinib was from NCT04270591.
 - The baseline characteristics before and after matching are shown in table 1

Table 1. Baseline characteristics for Savolitinib versus Glumetinib comparison

	Glumetinib (N=44)		Savolitinib	
		before(n=87)	after(ESS=72.9)	
Mean age (years)	68.5	69.6	68.5	
Mean weight (kg)	NA	60.6	NA	
Smoking History(%)	39%	38%	39%	
Male proportion(%)	52%	59%	52%	
ECOG score(%)	PS0: 7% PS1: 93%	PS0: 17% PS1: 83%	PS0: 7% PS1: 93%	
Histology(%)				
Pulmonary sarcomatoid carcinoma	2	8	2	
other	88	92	88	
Brain Metastasis(%)	17%	11%	17%	

- Exponential, Weibull, Gompertz, Loglogistic, Lognormal and Generalized Gamma survival distribution formula were used to fit the PFS and OS curve for both patient groups, respectively. Best fitting distribution were extracted according to AIC/BIC and the visual judgment (Table 2).

Table 2. Parameter Distribution for Endpoints in Each Treatment Group

Parameter	Savolitinib	Glumetinib
Median OS in Clinical Trial	28.7 months	25.4 months
Median PFS in Clinical Trial	13.9 months	11.7 months
Best-Fitting Distribution for PFS	Log-Normal	Gamma
Lambda (λ)	2.5264	0.0910
Gamma (γ)	1.0694	1.3923
Best-Fitting Distribution for OS	Log-Normal	Gamma
Lambda (λ)	3.3016	0.0401
Gamma (γ)	1.2150	1.2460

- The best fitting distribution curves are shown below (Figure 2).
- Only AEs with an incidence of ≥5% and a grade of ≥3 were considered.

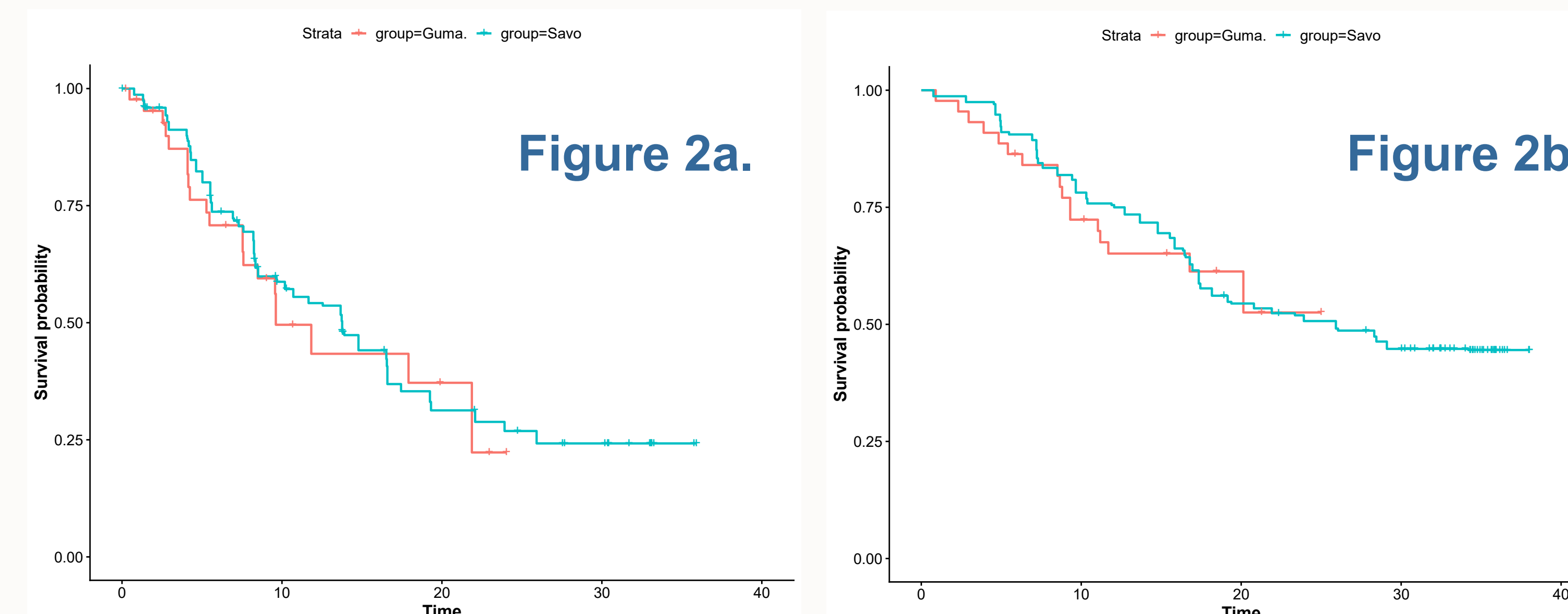


Figure 2. The exploration and fitting of PFS (2a) and OS (2b)

- Costs**
 - The prices of Savolitinib and Glumetinib were both determined based on the national drug price negotiation in 2025.
 - Other medical resource utilizations and costs were estimated by experienced clinicians via in-depth interviews.
 - The cost of end-of-life care costs was from published literature.
- Utility (Table 3)**
 - The utility values of states from published literature.

Table 3. Utility parameters in the model

Health State	Utility	Deterministic	Range	Distribution
PFS	0.86	0.77-0.94	Beta	
PD	0.77	0.69-0.84	Beta	

RESULTS

- The base-case analysis results:** The 5-year model projected a total cost of ¥327,126 with 1.99 QALYs for Savolitinib versus ¥347,195 with 1.79 QALYs for Glumetinib. Savolitinib was associated with lower total costs and higher QALYs.

Table 4. Results of base case analyses

Base case	Savolitinib	Glumetinib	Incremental	ICER
Total cost	¥327,126	¥347,195	- ¥20,069	- ¥103,220/QALY
Total QALYs	1.986	1.792	0.194	

- The one-way sensitivity analysis (OWSA) results** indicated the most significant parameters influencing the ICER were the price of Glumetinib in PFS, the price of Savolitinib in PFS and the end-of-life care cost of Glumetinib.

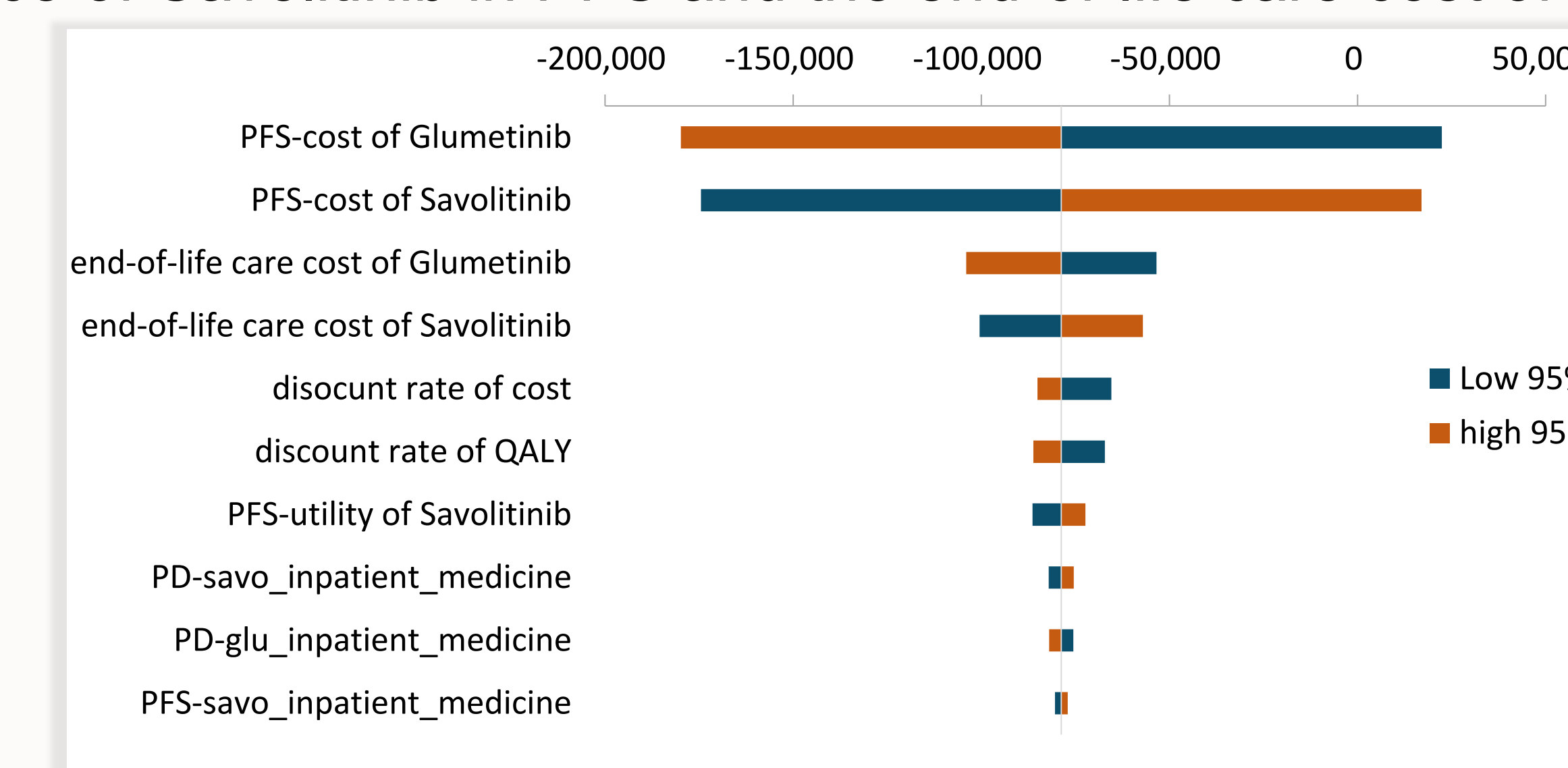


Figure 3. One-Way Sensitivity Analyses

- The probabilistic sensitivity analysis (PSA) results** indicated the proportion of Savolitinib being the more cost-effective strategy compared with Glumetinib was 86.00% when the willingness to pay (WTP) threshold was set at 1 times the gross domestic product (GDP) per capita.

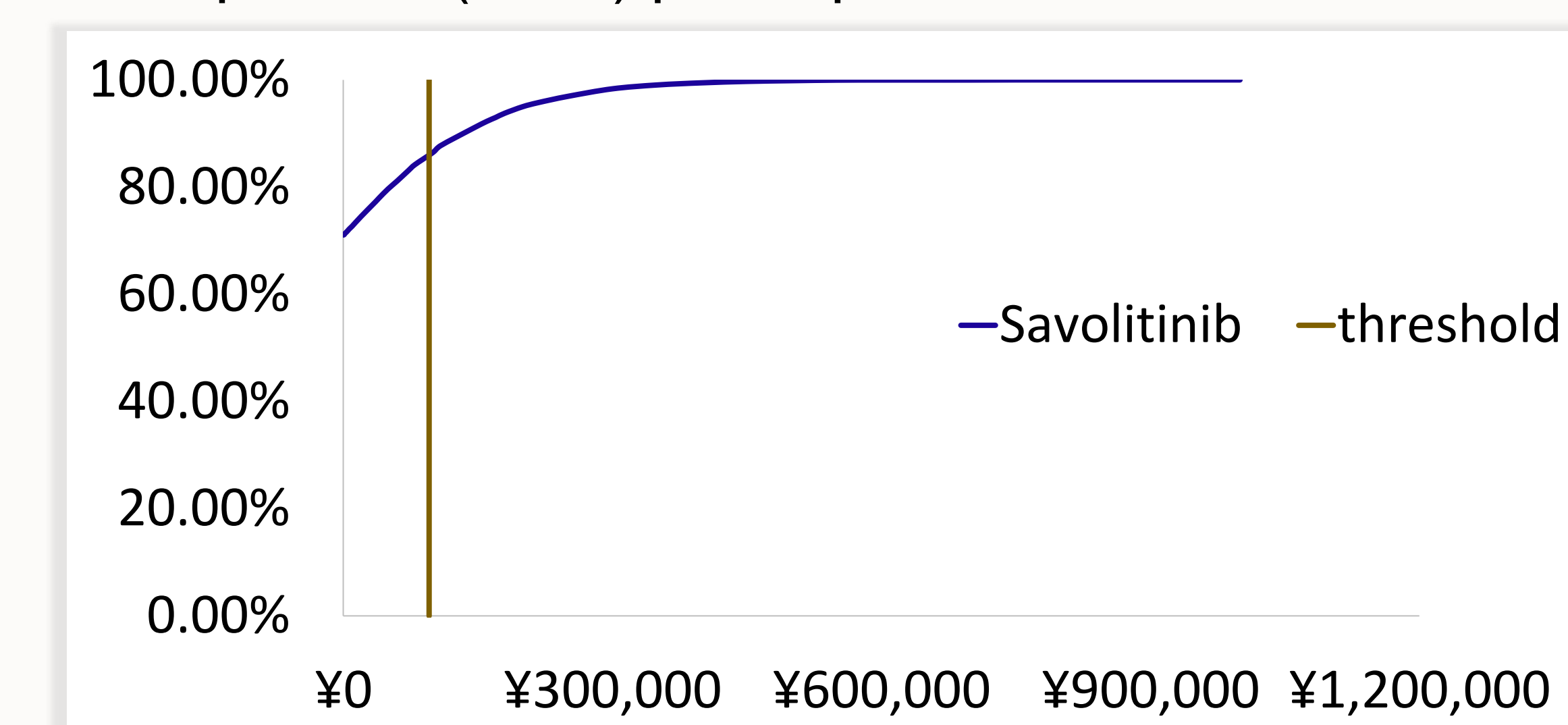


Figure 4. Cost-Effectiveness Acceptability Curve

CONCLUSIONS

- Savolitinib is a dominant and cost-effective option compared to glumetinib for first-line treatment of MET exon 14-mutated advanced NSCLC in China, demonstrating both improved health outcomes and cost savings, which was verified in sensitivity analyses.

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