



Objective

To evaluate the cost-effectiveness of relmacabtagene autoleucel (Relma-cel) versus salvage chemotherapy with or without autologous stem cell transplantation (IC±ASCT) for adult patients with relapsed/refractory large B-cell lymphoma (r/r LBCL) from the perspective of the Chinese healthcare system.

Methodology

Study Design & Perspective

- **Target Population:** Adult patients with relapsed/refractory large B-cell lymphoma (r/r LBCL) in China, previously treated with ≥ 2 lines of systemic therapy.
- **Interventions:** Relmacabtagene autoleucel (Relma-cel) vs. salvage chemotherapy with or without autologous stem cell transplantation (IC±ASCT).
- **Perspective:** Chinese healthcare system perspective.
- **Time Horizon & Discounting:** Lifetime horizon with a 5% annual discount rate for both costs and health outcomes.

Model Structure

- A hybrid decision tree followed by a three-state (PFS, PD, Death) partitioned survival model (PSM) was developed to project lifetime outcomes.
- A Mixture Cure Model (MCM) was incorporated to reflect the curative potential of CAR-T therapy (Figure 1).

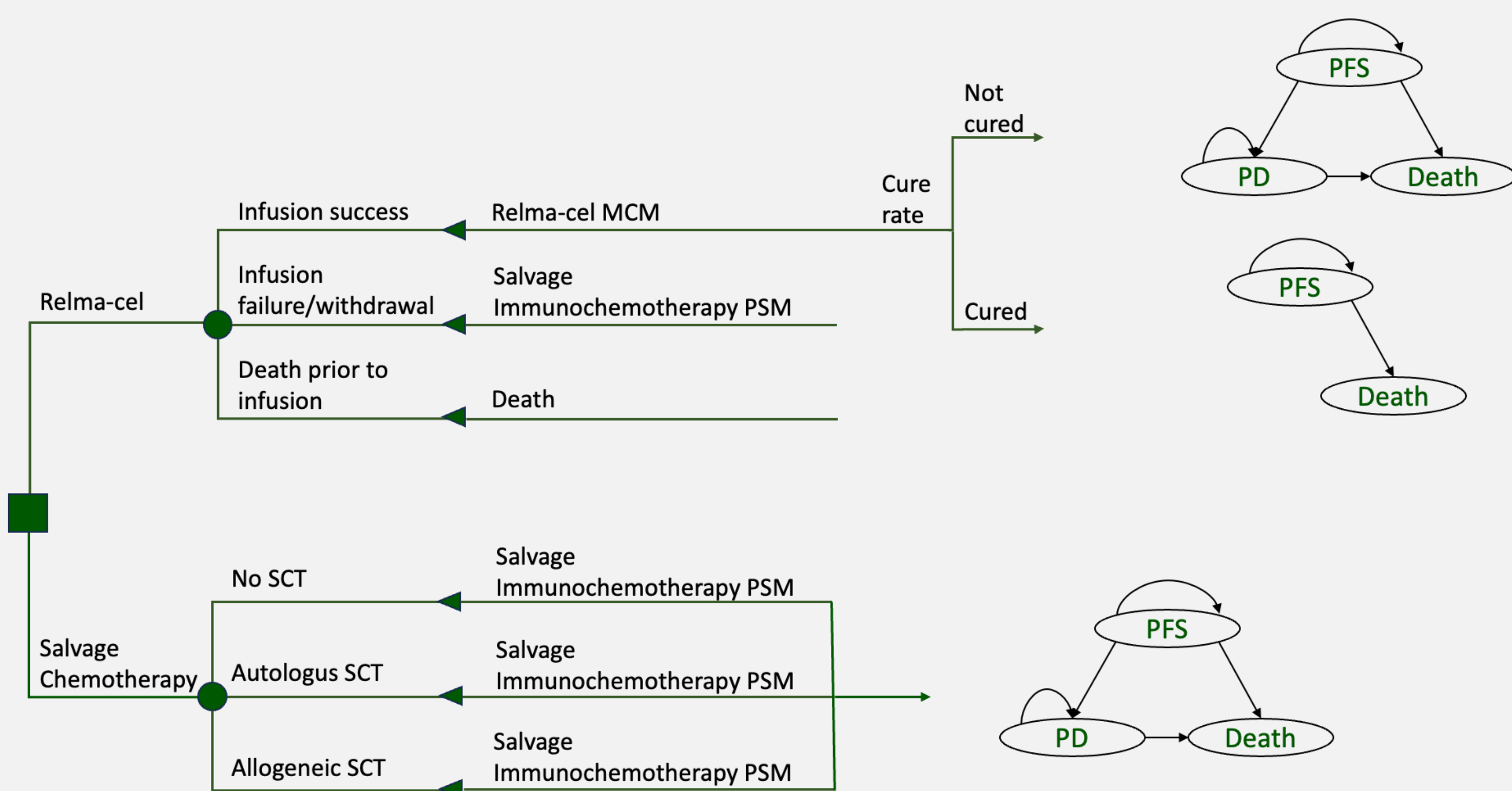


Figure 1 Cost-effectiveness analysis model structure

Data Inputs & Base-Case Results

Data Synthesis & Inputs

- **Clinical Data:** Individual patient data (IPD) for Relma-cel were from the RELIANCE trial; control arm data were from the SCHOLAR-1 study.
- **Indirect Comparison:** Unanchored Matching-Adjusted Indirect Comparison (MAIC) and STC were employed to adjust for cross-trial heterogeneity. After MAIC adjustment, Relma-cel significantly reduced the risk of death by 57.7% (**HR=0.423**; 95% CI: 0.284–0.630).
- **Cost Data:**
 - Only direct medical costs (including drug acquisition, bridging chemo, stem cell transplant, AE management, and follow-up care) were considered from the perspective of the Chinese healthcare system.
 - With the exception of the CAR-T drug (¥1,290,000) and transplantation, other costs (e.g., salvage chemotherapy:¥181,980) were estimated based on in-depth interviews with 12 clinical experts.
- **Utility Data:**
 - Patient-level health-related quality of life (HRQoL) data for Relma-cel (**PFS:0.951**; **PD:0.753**) were derived from the RELIANCE trial.
 - Utility values for salvage chemotherapy (**PFS:0.700**; **PD:0.590**) were based on published literature.
 - Background mortality was derived from the 2020 China Life Tables.

Base-Case Results

- Base-case analyses demonstrate that Relma-cel is a cost-effective strategy compared to IC±ASCT, yielding incremental health gains of **5.01 to 9.23 QALYs**. The resulting ICERs (**¥90,198–¥130,705/QALY**) fall well below the Chinese WTP threshold (**¥191,498/QALY**). Detailed outcomes across MAIC and STC methodologies are summarized in Table 1.

	MAIC (Relma-cel vs IC±ASCT)	STC (Relma-cel vs IC±ASCT)
Incremental QALY	5.01	9.23
Incremental Costs (¥)	451,776	1,205,894
ICER (¥/QALY)	90,198	130,705
PSA (%)	100	96.1

Table 1 Base-case cost-effectiveness results

Sensitivity Analysis

- One-way Sensitivity Analysis (Figure 2): The ICER was most sensitive to the discount rate and the cost of Relma-cel. However, results remained consistently below the WTP threshold (2x 2024 Chinese GDP per capita, ¥191,498/QALY) across all tested parameter ranges.

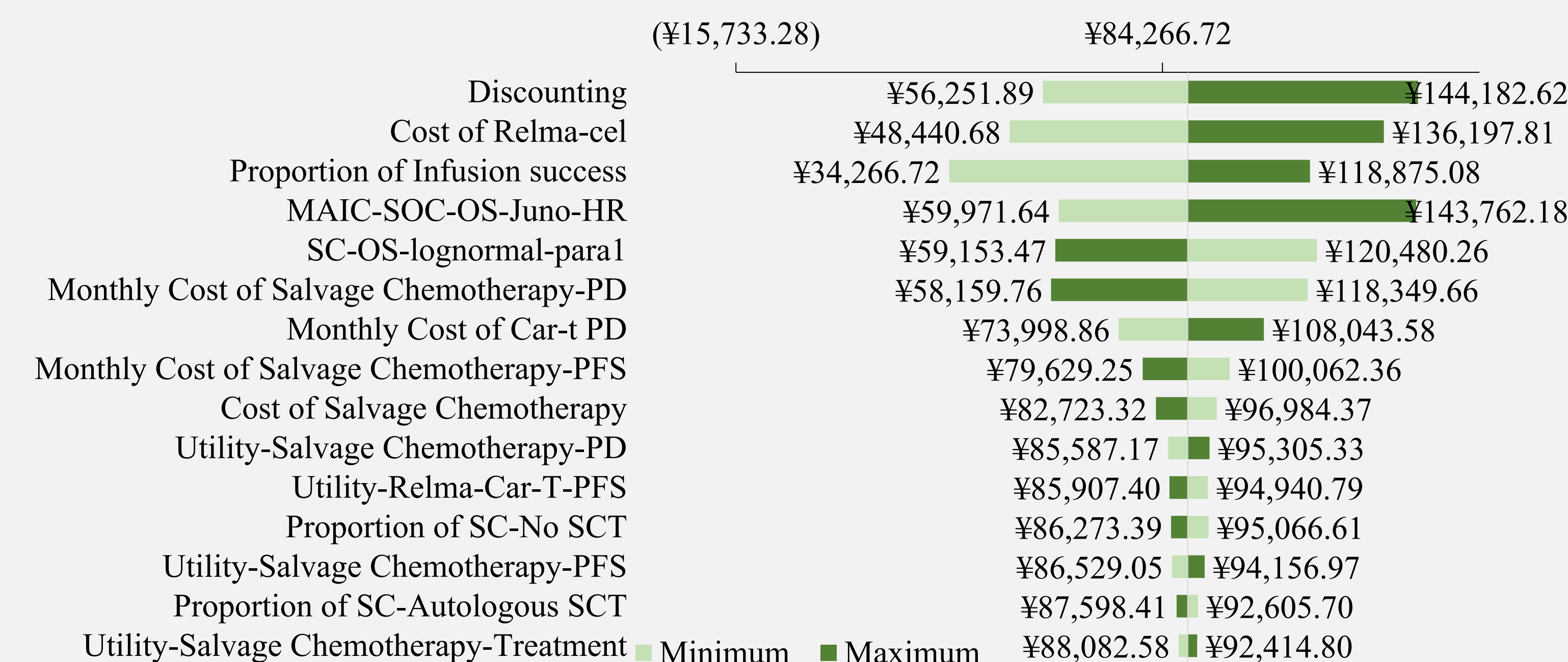


Figure 2 One-way sensitivity analysis (MAIC)

- Probabilistic Sensitivity Analysis (Figure 3): Relma-cel demonstrated a 100.0% probability of being cost-effective under the MAIC approach at the established WTP threshold. These results indicate high robustness of the base-case findings.

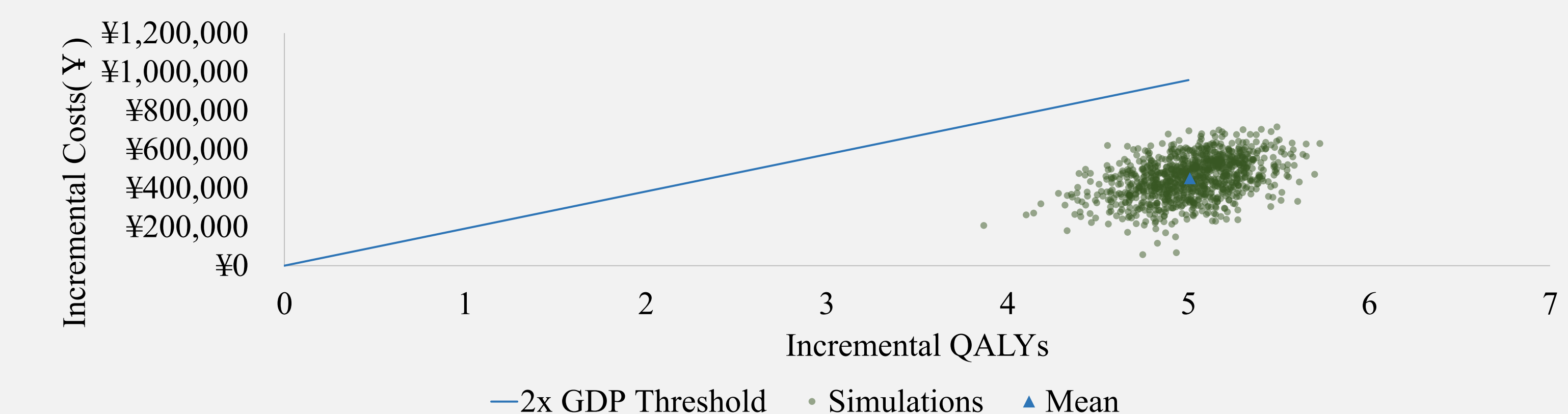


Figure 3 Cost-effectiveness plane

Conclusion

- Relma-cel was a robustly cost-effective treatment option compared to standard salvage therapies for Chinese r/r LBCL patients.
- Despite methodological differences between MAIC and STC, both approaches yielded ICERs below the WTP threshold, supporting the robustness of the cost-effectiveness conclusion.

References

1. Ying Z, Yang H, Guo Y, et al (2023) Long-term outcomes of relmacabtagene autoleucel in Chinese patients with relapsed/refractory large B-cell lymphoma: Updated results of the RELIANCE study. *Cytotherapy* 25:521–529. <https://doi.org/10.1016/j.jcyt.2022.10.011>
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3. Crump M, Neelapu SS, Farooq U, et al (2017) Outcomes in refractory diffuse large B-cell lymphoma: results from the international SCHOLAR-1 study. *Blood* 130:1800–1808. <https://doi.org/10.1182/blood-2017-03-769620>
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