

The Cost-Effectiveness of Duvelisib versus the Bendamustine plus Rituximab Regimen for Relapsed/Refractory Follicular Lymphoma Patients in China

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Objective

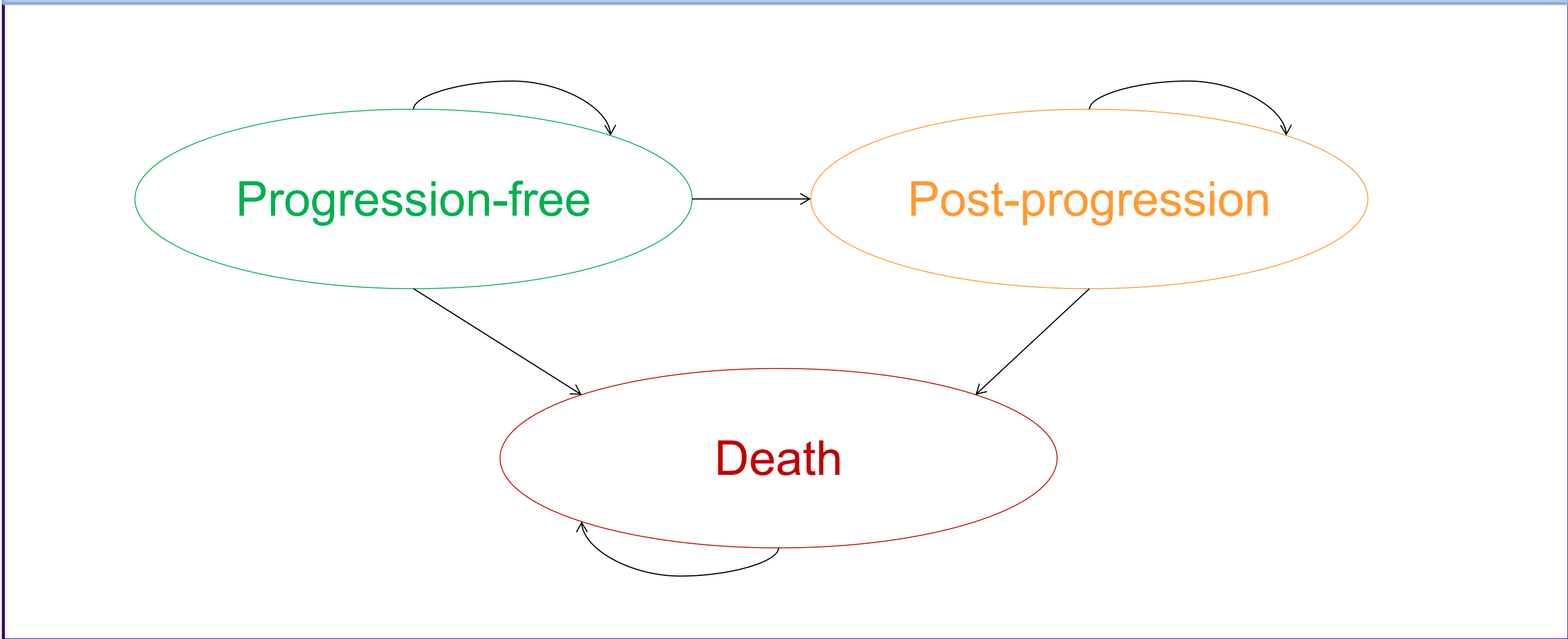
- To assess the cost-effectiveness of Duvelisib compared to the Bendamustine plus Rituximab (BR) regimen for treating adult patients with relapsed/refractory follicular lymphoma (RR FL) who have undergone at least two lines of prior therapy in Chinese healthcare setting.

Methods

Model Structure

- ◆ The model adopts a partitioned-survival analysis (PartSA) structure to inform health state occupancy from a healthcare system perspective.
- ◆ The outcomes of overall survival (OS) and progression-free survival (PFS) are used to inform the proportion of patients residing in three mutually-exclusive health states: progression-free, post-progression, or death (Figure 1).

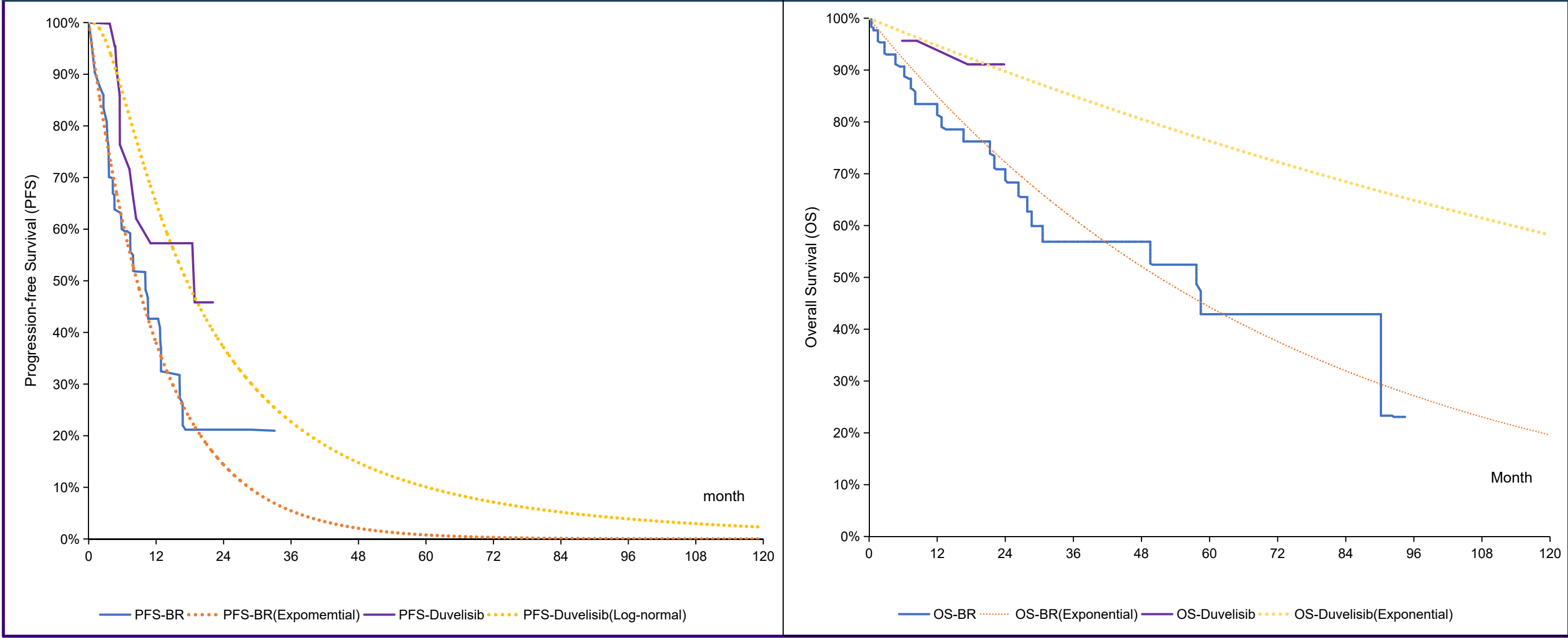
Figure 1 | Model Structure



Model Parameters

- ◆ The efficacy and safety data of Duvelisib were sourced from Phase II clinical trial data of the Chinese population.
- ◆ Efficacy and safety data for BR regimen selected from the most appropriate studies known.
- ◆ Determine the optimal fitting distribution based on Akaike information criterion (AIC) and Bayesian information criterion (BIC), obtaining the distribution parameters of the fitted curve (Figure 2).
- ◆ Drug costs, other direct medical expenses, and utility value data were obtained from electronic records or literature databases.

Figure 2 | Survival



Results

Base Case Results

- ◆ The model was run for 10 years for adult patients with RR FL who have undergone at least two prior lines of therapy.
- ◆ Duvelisib was found to be a more expensive treatment option than the BR regimen, with total costs of ¥485,717 (\$66,397.51) and ¥398,610 (\$54,489.99), respectively.
- ◆ However, Duvelisib was also associated with a greater number of QALYs gained (4.23 vs. 2.73 for BR), resulting in an ICER of ¥58,383 (\$7,980.96) per QALY gained (Table 1).

Table 1 | The cost, effectiveness and incremental cost-effectiveness ratios (ICERs)

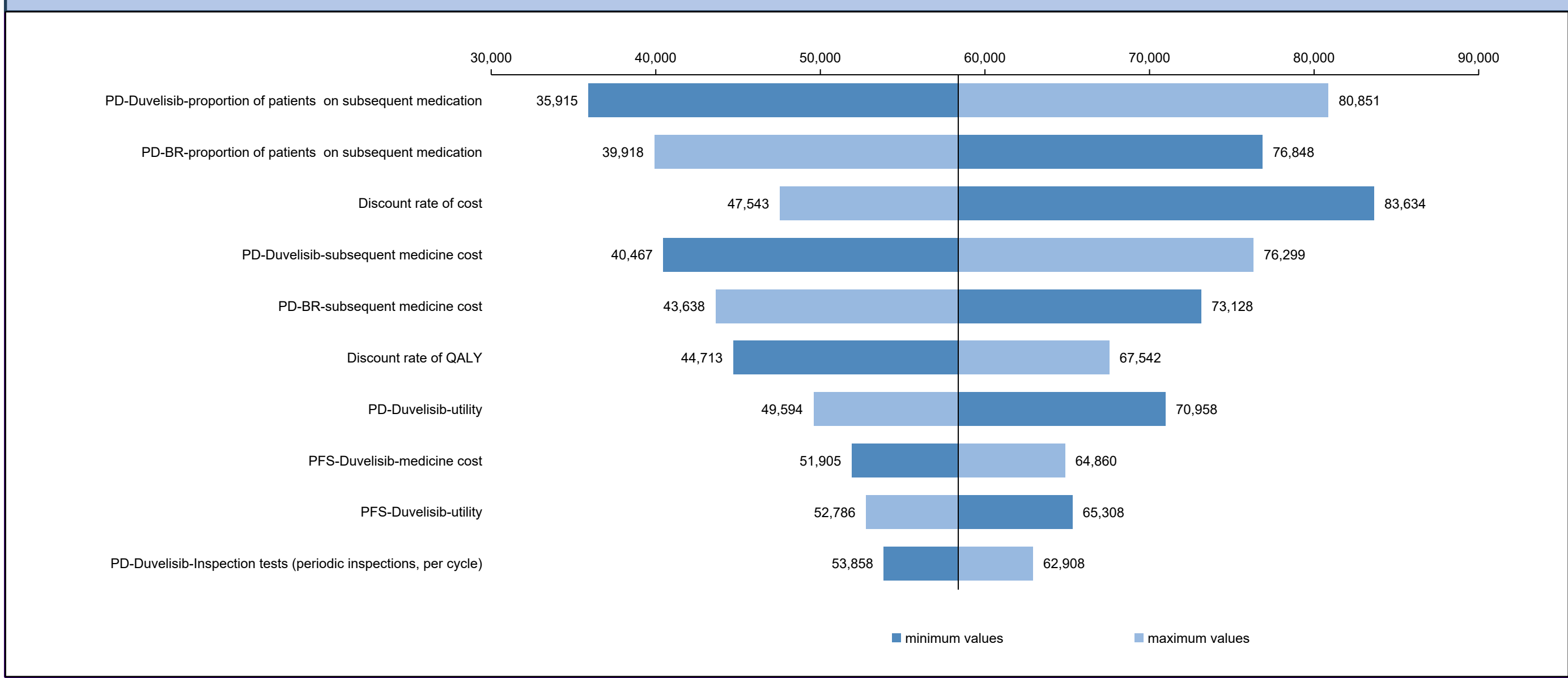
Subject	Duvelisib	BR
Total cost	¥485,717	¥398,610
PFS-treatment cost	¥96,643	¥62,761
PFS-adjuvant drugs cost	¥0	¥4,258
PFS-other cost	¥36,782	¥31,137
AE cost	¥1,661	¥2,670
PD-cost	¥344,148	¥284,422
End of life cost	¥6,484	¥13,363
Total QALYs	4.23	2.73
PFS-QALYs	1.58	0.81
PD-QALYs	2.64	1.93
Δ Cost	¥87,107	
Δ QALYs	1.49	
ICER (Duvelisib vs. BR)	58,383	

Sensitivity Analysis

One-way Sensitivity Analysis

- ◆ Key drivers were the proportion of patients in the intervention and control groups on subsequent medication after disease progression, and the discount rate of cost (Figure 3).

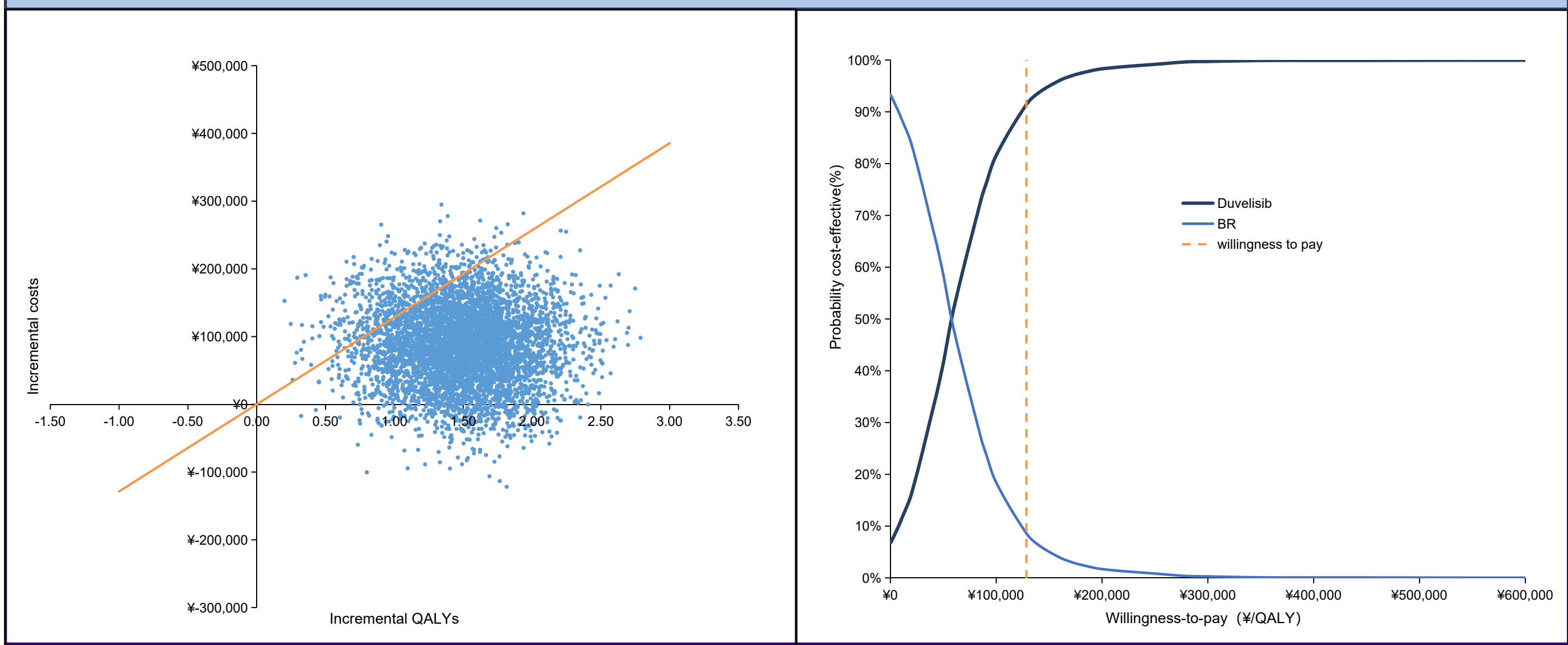
Figure 3 | The Tornado Graphs



Probabilistic Sensitivity Analysis

- ◆ At a willingness-to-pay of ¥128,547/QALY (1.5 times of GDP-per-capita in China), Duvelisib had a 91.4% chance of being cost-effective against the BR regimen (Figure 4).

Figure 4 | Cost effectiveness Plane & Cost-effectiveness Acceptability Curve



Conclusion

- From the perspective of Chinese national healthcare system, we conclude that compared to the BR regimen, Duvelisib is a cost-effective option for adult patients with RR FL who have received at least two prior lines of therapy.

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