



# Economic Evaluation of Targeted Perinatal Depression Screening for High-Risk Women in China

HTA22

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## INTRODUCTION

Perinatal depression is highly prevalent in China and is associated with adverse maternal and infant outcomes. Screening and intervention may improve health outcomes, but universal screening strategies may impose substantial financial burden on healthcare systems. Targeted screening may provide a more resource-efficient approach; however, relevant economic evaluation evidence in China remains limited.

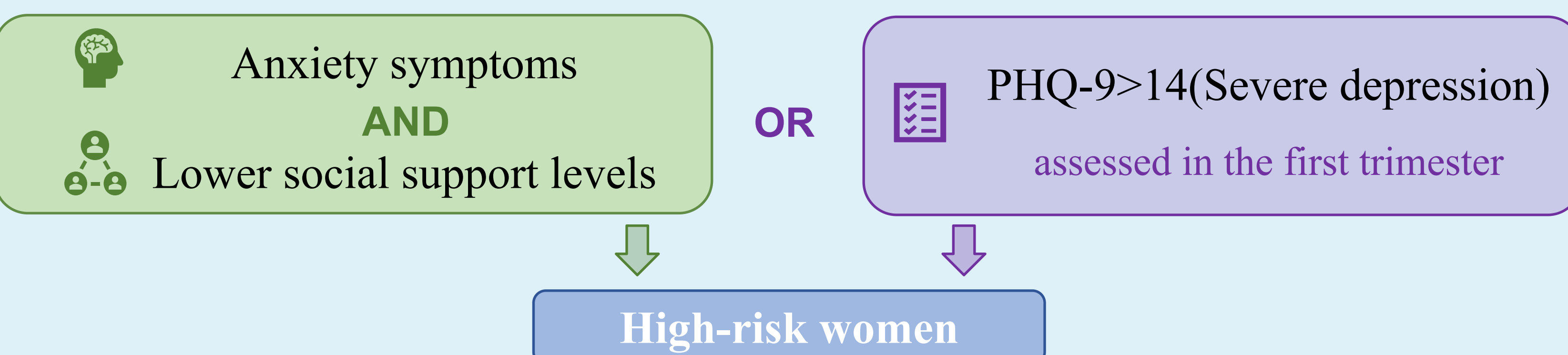
## OBJECTIVES

This study aims to develop a targeted screening strategy and to estimate its' cost-effectiveness and budget, compared with universal screening and no screening strategies for perinatal depression in China.

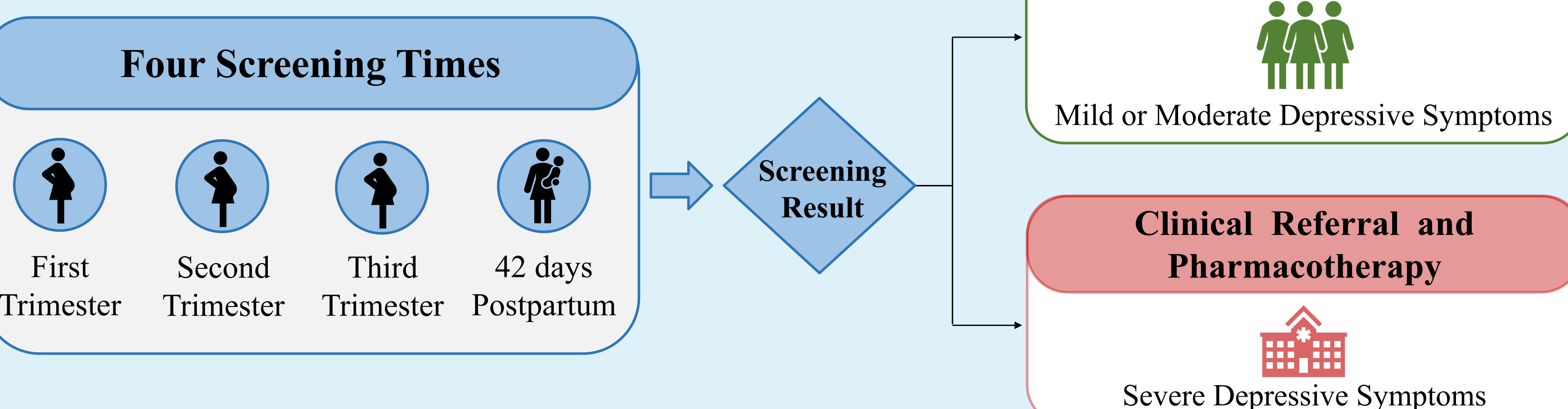
## METHODS

### 1. High-risk Women Identification

High-risk women were identified by three factors based on trajectory of perinatal depressive symptoms scores.



### 2. Targeted Screening Strategy: Four Screening Times + Group Psychological Counseling



3. Adopting a payer's perspective, the cost-effectiveness and affordability of the targeted screening strategy were evaluated against both no screening and universal screening strategies with a Markov decision analysis model, which simulated a cohort of 100,000 Chinese pregnant women from the first trimester to one year postpartum.

## RESULTS

Compared with no screening, both screening strategies were cost-effective under the willingness-to-pay threshold of 95,749 CNY ~ 287,247 CNY.

Table 1 Cost-effectiveness Results of Perinatal Depression Screening Strategies

Strategy	Cost (CNY/person)	Healthy Life-Year	ICER vs No Screening	ICER of Targeted vs Universal
No Screening	0.00	1.8006	-	-
Universal Screening	246.81	1.8050	56523.39	-
Targeted Screening	47.46	1.8016	51763.78	57788.26

One-way sensitivity analysis showed that the model was most sensitive to screening cost, group counseling cost, the specificity and sensitivity of PHQ-9, and the probability of refusing group counseling. However, the results remained robust across all plausible parameter ranges.

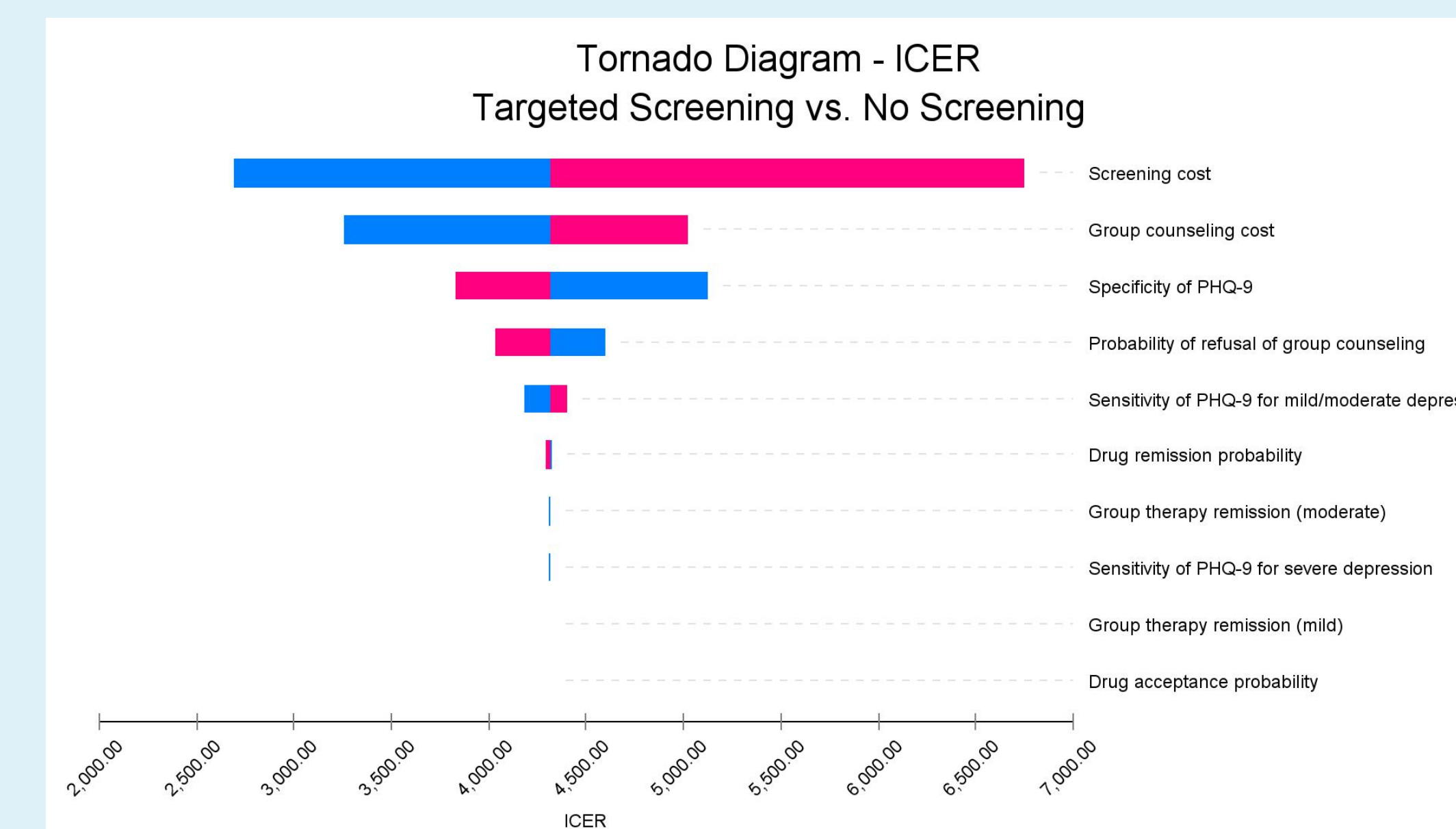
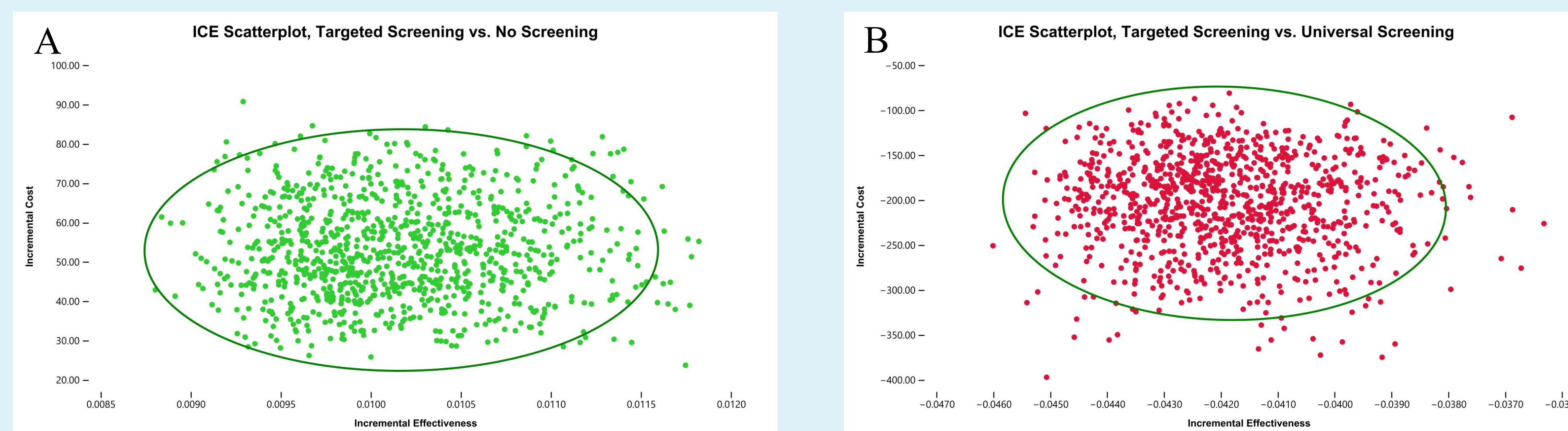


Figure 1. One-way Sensitivity Analysis for Targeted Screening vs No Screening

Probability sensitivity analysis demonstrated that high-risk screening was consistently more cost-effective than no screening (100% probability below WTP threshold), while compared with universal screening, it was less costly but yielded slightly lower health benefits.



(A) Targeted screening vs no screening (B) Targeted screening vs universal screening

Figure 2. Probabilistic Sensitivity Analysis of Screening Strategies

When the probability of affordability reached 100%, the budget for the targeted screening strategy amounted to 9.08 million CNY, while the budget for the universal screening strategy was 47.23 million CNY.

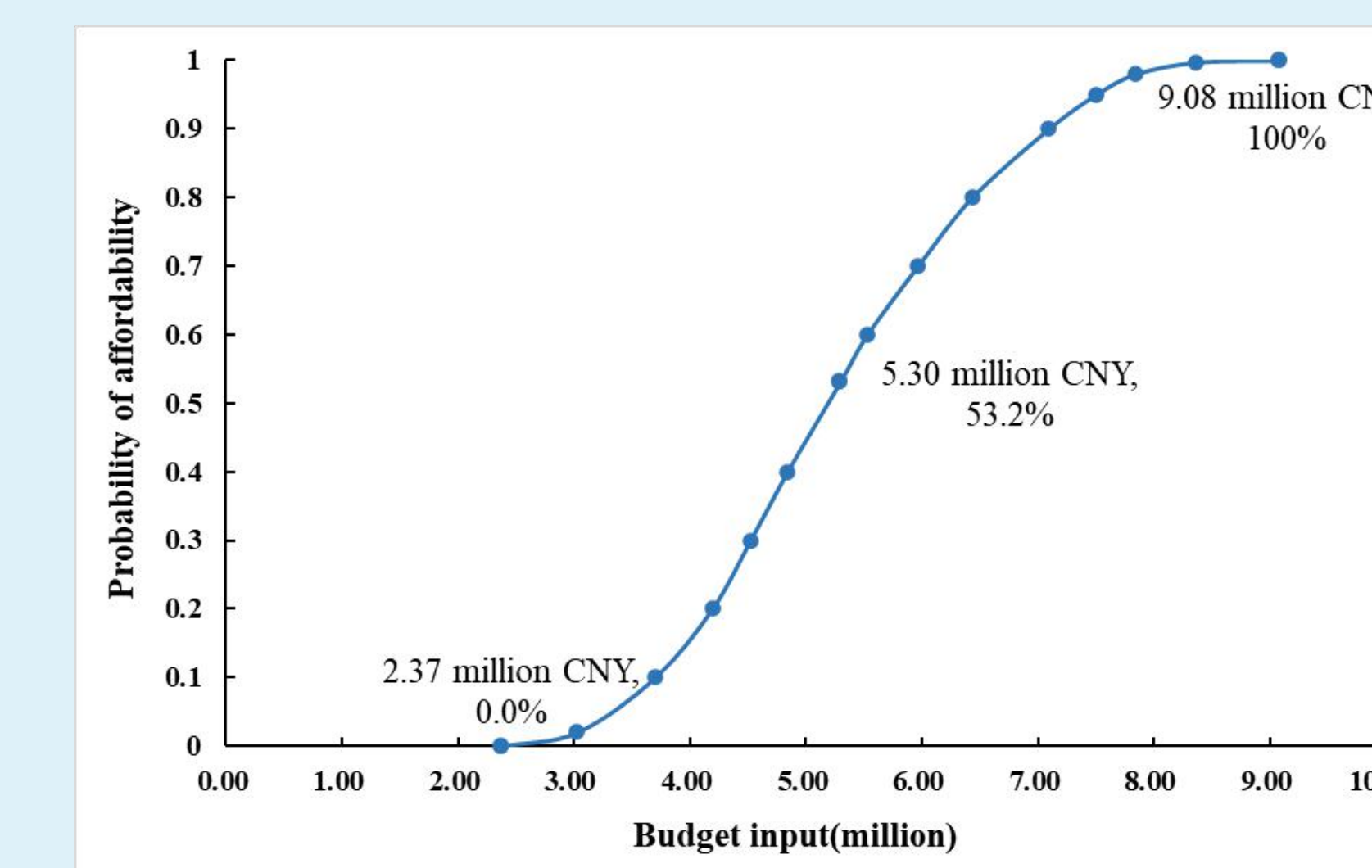


Figure 3. Affordability Curve of Targeted Screening Strategy

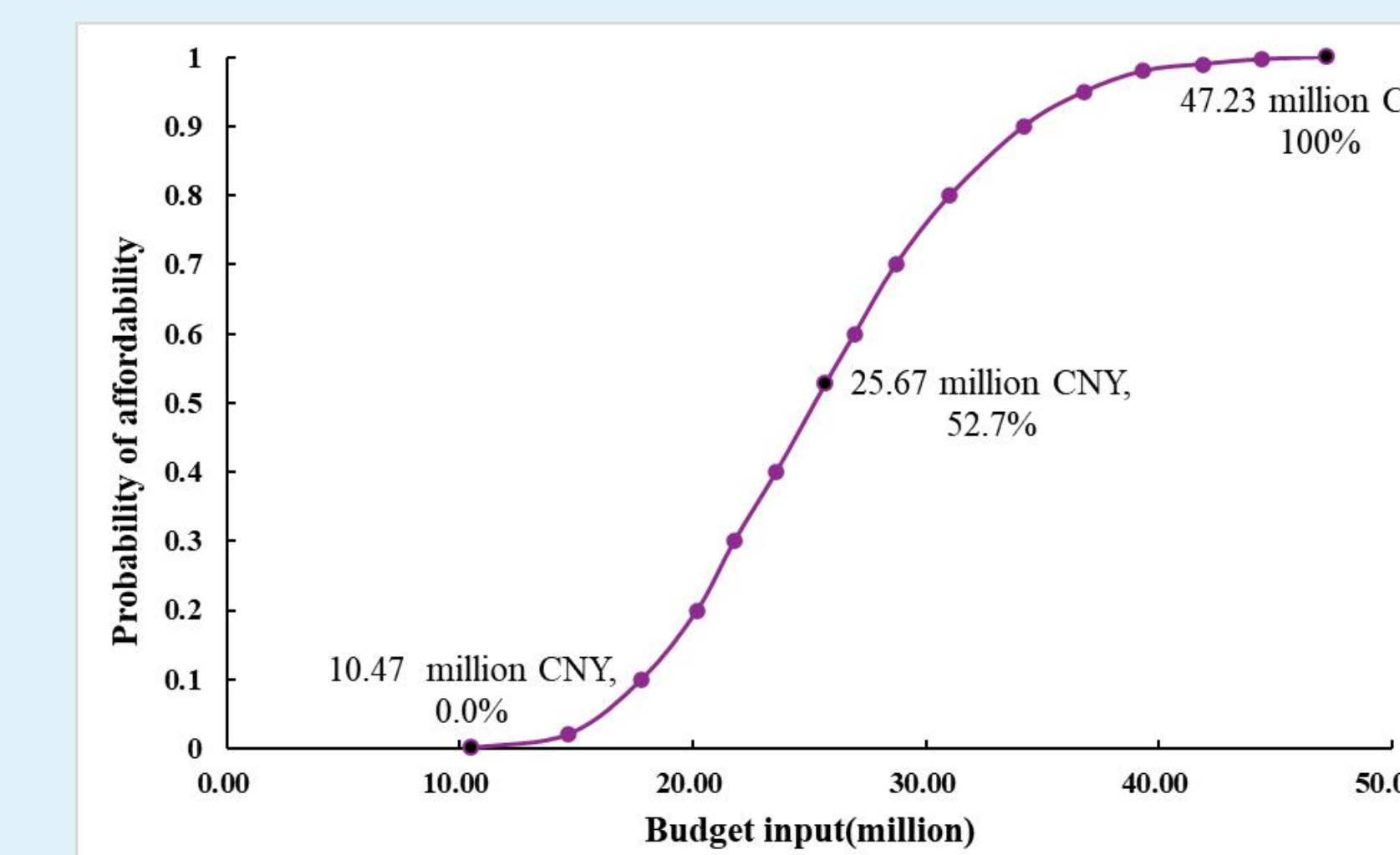


Figure 4. Affordability Curve of Universal Screening Strategy

## Key Findings

- Both screening strategies were cost-effective
- Universal screening generated greater health gains
- Targeted screening substantially reduced budget burden

## CONCLUSIONS

Both targeted and universal screening strategies for perinatal depression were cost-effective compared with no screening. Although universal screening produced greater health gains, targeted screening substantially reduced budget burden and may be more practical in settings with constrained healthcare resources.