

Cost-Effectiveness Analysis of Cariprazine Versus Risperidone for the treatment of Schizophrenia with Predominantly Negative Symptoms (PNS) in United Arab Emirates

M. Bardi, MD¹ , R. Al-Homsi, Pharm.D² , T. Abu-Rumman, B.Pharm³ , I. Alnims, B.Pharm³ , J. Atieh, B.Pharm³

¹Al Amal Psychiatric Hospital EHS, Dubai, United Arab Emirates, ²Hikma Pharmaceuticals, Amman, Jordan, ³Hikma Pharmaceuticals, Dubai, United Arab Emirates.

Introduction

Compared to positive symptoms, most antipsychotics have limited evidence of efficacy in addressing the negative symptoms of schizophrenia, which significantly affect patients' functional outcomes and quality of life. Cariprazine, a novel antipsychotic, has demonstrated superior efficacy in treating predominant negative symptoms (PNS) compared with Risperidone.

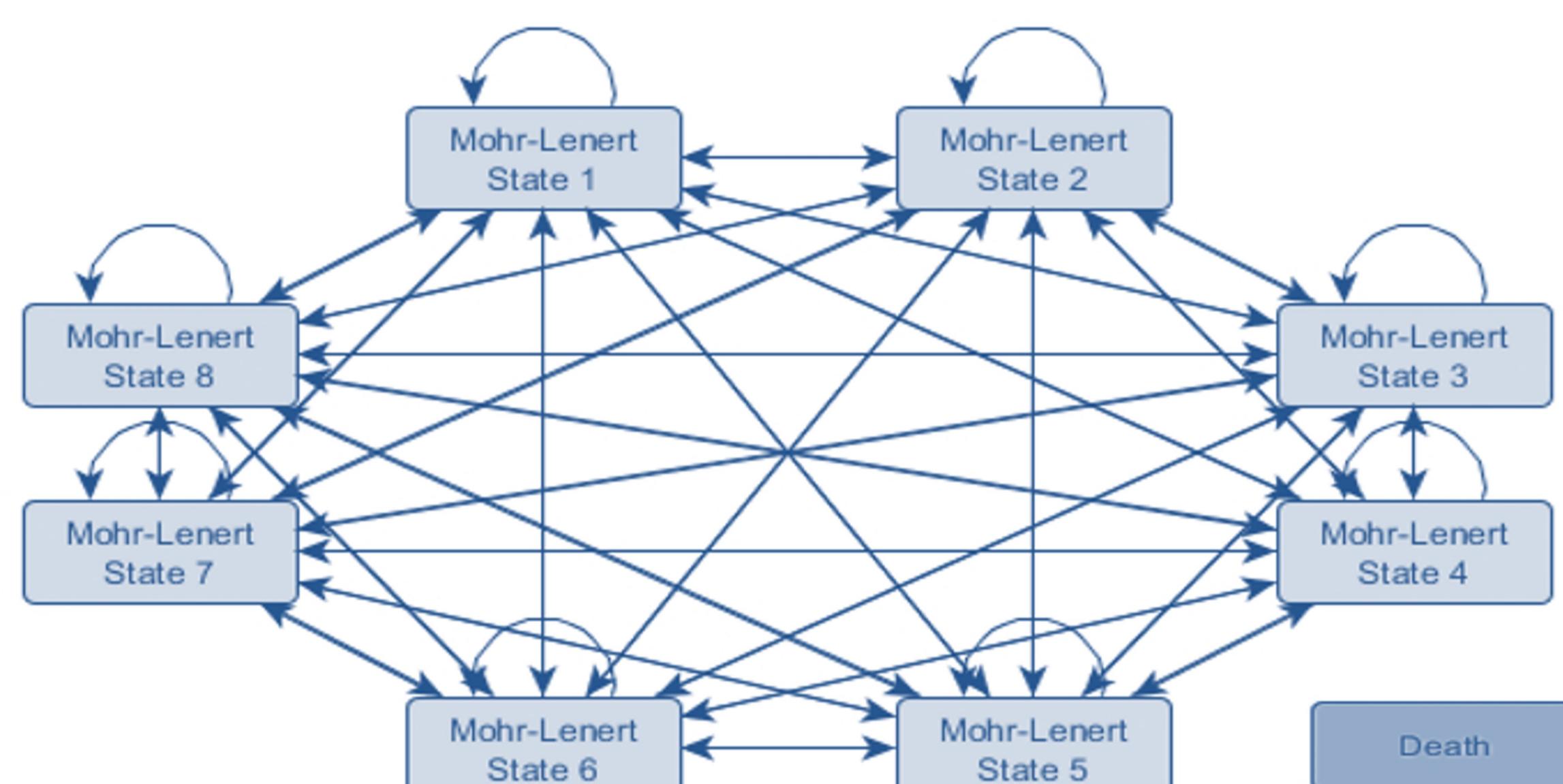
Objective

This study aims to assess the cost-effectiveness of Cariprazine versus Risperidone for the treatment of schizophrenia with PNS in United Arab Emirates (UAE).

Method

A cost-utility analysis using a deterministic 9-state Markov cohort model was adapted to UAE public payer perspective, focusing on one of the country's largest psychiatric hospitals.

The patient population was defined as patients with predominantly persistent negative symptoms (PNS) of schizophrenia, in accordance with the RGH-188-005 clinical trial.



In the first cycle of the model, patients start from either the Mohr-Lenert health state 4 or the Mohr-Lenert health state 6, as patients with PNS are considered to be in these two health states; this was the case in the RGH-188-005 clinical trial.

Mohr-Lenert classification

State 1	Mild Symptoms
State 2	Moderate with negative dominance of symptoms
State 3	Moderate with positive and negative dominance of symptoms
State 4	Severe with negative dominance of symptoms
State 5	Severe with cognitive dominance of symptoms
State 6	Severe with negative and cognitive dominance of symptoms
State 7	Severe with positive dominance of symptoms
State 8	Very severe symptoms

Patients can move between the eight Mohr-Lenert states according to the transition probabilities and can also die in any Mohr-Lenert health state.

Cycle length	For the initial 6 weeks, the cycle length was set to be one week. For the remaining time-period, the cycle length was 12-week long cycles (approximately 3 months long)
Time Horizon	Estimated duration of antipsychotics use in schizophrenia (5 years).

Transition probabilities were calculated based on RGH-188-005 clinical trial data and estimates from European expert interviews.

The model incorporates local drug prices and local cost of medical resources use.

Medication	Drug Cost per 28 days
Cariprazine	USD 71
Risperidone	USD 42
Other second-generation antipsychotics	USD 51

Data on resource utilization of schizophrenic patients was gathered from the European Schizophrenia Cohort (EuroSC) study. Utilities of health states and utility decrements were obtained from international literature. 3.5% annual discount rate was applied to both costs and outcomes.

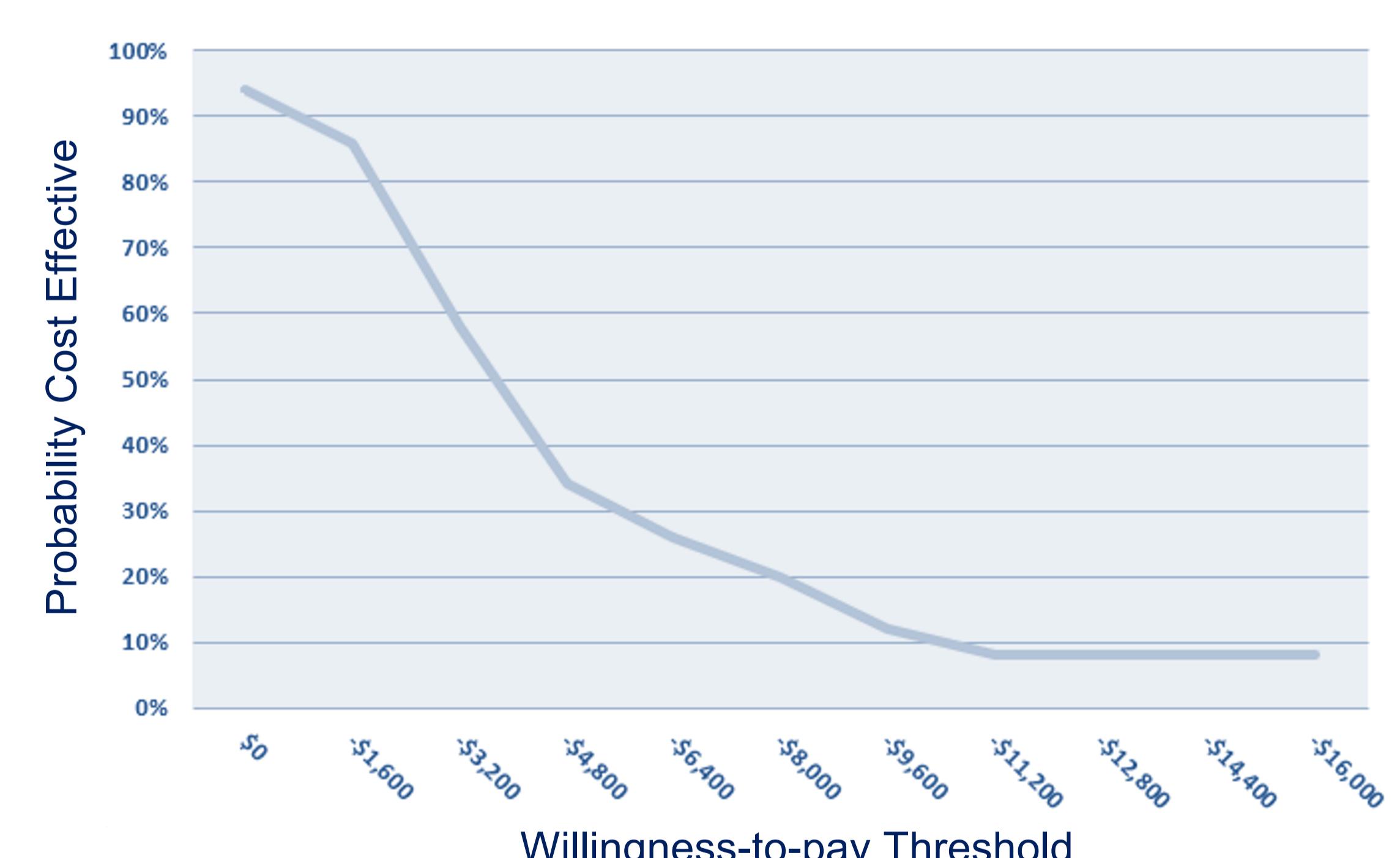
Results

The total cost was 35,273 USD for Cariprazine and 35,640 USD for Risperidone. Cariprazine yielded 6.64 QALYs versus 6.54 QALYs for Risperidone.

Cariprazine was found to be a dominant option, with an ICER of -3,589 USD per QALY gained.

Cariprazine Versus Risperidone for the treatment of schizophrenia with predominantly negative symptoms in UAE	
Difference in Cost (USD)	- USD 367
Difference in QALYs	0.1
ICER (USD/QALY)	- USD 3,589

The model was sensitive to changes in medication pricing of Cariprazine and Risperidone. PSA found that Cariprazine was 94% likely to be cost effective at zero willingness-to-pay threshold.



Conclusion

Cariprazine is a dominant option for the treatment of schizophrenia with PNS in one of UAE's major psychiatric hospitals. Our findings may support its inclusion in the hospital formulary.

References:

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