

Grace Hsin-Min Wang, Pharm.D., M.S.<sup>1</sup>, Mikael Svensson, Ph.D.<sup>1</sup>, Hui Shao, M.D., Ph.D.<sup>1</sup>, Scott Martin Vouri, Pharm.D., Ph.D.<sup>1,2</sup>, Haesuk Park, Ph.D.<sup>1</sup>  
<sup>1</sup> Department of Pharmaceutical Outcomes & Policy, University of Florida College of Pharmacy, Gainesville, FL  
<sup>2</sup> Center for Drug Evaluation and Safety, University of Florida, Gainesville, FL

### Introduction

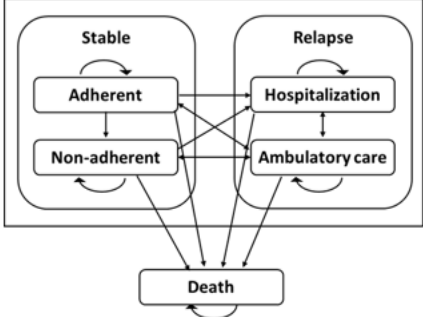
- Compared with daily administered antipsychotics, long-acting injectable antipsychotics (LAI) can improve medication adherence, resulting in a lower risk of relapse in patients with schizophrenia.
- Paliperidone palmitate, a new form of LAI, can be administered monthly (PP1M), three monthly (PP3M), or six monthly (PP6M).
- While proven effective in improving compliance, the economic value of administering this high-cost treatment is unknown.

### Objective:

- To compare the cost-effectiveness across PP6M, PP3M, PP1M, and paliperidone oral extended-release tablets (ER).

### Methods

- Populations:** US patients with stable schizophrenia aged 40 years
- Intervention & comparator:**
  - Paliperidone ER, PP1M, PP3M, PP6M
- Outcomes:**
  - Cost: standardized to 2022 U.S. dollars
  - Quality-Adjusted Life Year (QALY)
  - Incremental Net Monetary Benefit (INMB) = willingness-to-pay (WTP) per QALY × (ΔQALY) - (Δcost)
- Perspective:** payer of the U.S. healthcare system
- Markov model**



- Time horizon:** quarterly basis over a 5-year time horizon
- One-way sensitivity analysis:** parameter changes within ± 25%
- Probabilistic sensitivity analysis:** WTP \$50,000 to \$200,000

### Results

Table 1. Cost and QALY of different paliperidone formulations and INMB of each drug pair.

Intervention	Cost (\$)	QALY	Comparator	Cost (\$)	QALY	Δ cost (\$)	Δ QALY	INMB (\$)
PP1M	148,219	3.605	Paliperidone ER	67,671	3.553	80,548	0.052	-77,948
PP3M	113,872	3.696	Paliperidone ER	67,671	3.553	46,201	0.143	-39,084
PP6M	106,743	3.697	Paliperidone ER	67,671	3.553	39,072	0.144	-31,880
PP3M	113,872	3.696	PP1M	148,219	3.605	-34,347	0.091	38,863
PP6M	106,743	3.697	PP1M	148,219	3.605	-41,476	0.092	46,067
PP6M	106,743	3.697	PP3M	113,872	3.696	-7,129	0.001	7,204

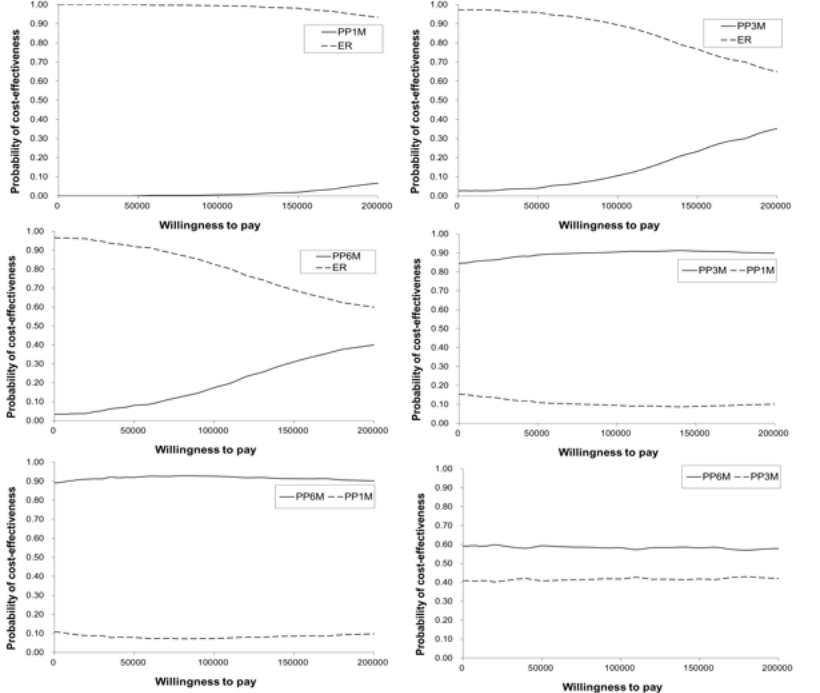


Figure 2. Probabilistic sensitivity analyses among different drug pairs

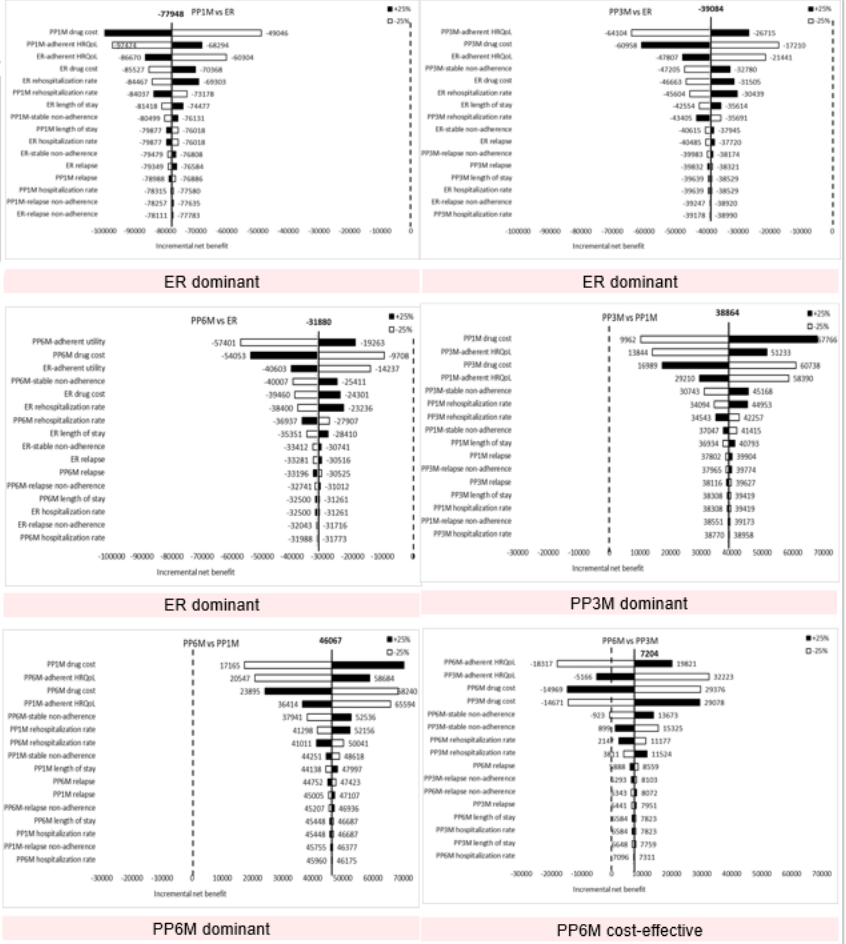


Figure 1. One-way sensitivity analyses among different drug pairs

\*Solid line denotes the baseline INMB; dashed line denotes that INMB=0

### Main findings

- For adults with stable schizophrenia, LAI paliperidone formulations were not cost-effective compared to ER, suggesting their high drug costs may not justify the improved quality of life.
- Among LAI formulations, PP6M is cost-effective compared to PP1M and PP3M.