

Expected Cost of an FDA-Authorized Prescription Digital Therapy for Children with ADHD

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INTRODUCTION

- Digital therapeutics which are primarily used to prevent, manage, and treat disease, offer new ways to deliver and receive health care and represent a growing range of potential products. The healthcare community has embraced these tools, recognizing their potential to revolutionize patient care and improve health outcomes.
- Digital therapeutics offer an alternative when pharmacological and non-pharmacological treatments do not provide the desired outcomes. One example of this is in the treatment of attention-deficit hyperactivity disorder (ADHD), a neurodevelopmental condition impacting individuals of all ages, from children to adults. It is defined by an ongoing pattern of inattention, hyperactivity, and impulsivity, which hinders daily activities and affects overall well-being.
- The occurrence of ADHD fluctuates based on the population examined and the diagnostic standards employed. Nevertheless, ADHD is estimated to affect roughly 5% of children globally.¹ In the United States, the prevalence of ADHD among children and adolescents is approximately 9-10%.² ADHD frequently continues into adulthood, with an estimated 2.5% of adults affected.³
- Because of the high prevalence and short-term efficacy of ADHD treatments, EndeavorRx (ERx) provides an alternative to standard interventions. ERx is an FDA-approved medical device treatment for children 8 to 12 years old, delivered through a video game on mobile devices. It should be used as part of a therapeutic regimen that may include medication, clinician-directed therapy, and/or educational programs.

OBJECTIVES

- A simulation model was developed to estimate the expected cost of ERx when incorporated into standard care, including stimulants (Stim) and CBT.

Table 1. Costs of Scripts and Visits

	Cost
EndeavorRx (30 days)	\$ 450
Branded Stimulant (30 days)	\$ 401
Generic Stimulant (30 days)	\$ 255
CBT Session	\$ 152
Office Visit	\$ 256

METHODS

- A cost-minimization decision tree was constructed in TreeAge Pro 2022
- The decision tree model was developed with a 1-year time horizon from the payer perspective.
- A probabilistic sensitivity analysis (PSA) of 10,000 iterations was performed to determine 95% confidence intervals for costs. Component costs were assigned normal distributions.
- Six treatment arms were included:
 - Starts ERx Month 1, Generic Stim Added for Non-Responders (ERx)
 - Starts ERx and Generic Stim Month 1 (ERx + Stim)
 - Starts Generic Stim and CBT Month 1 (Stim + CBT)
 - Starts Generic Stim Month 1, Switch to Branded Stim for Non-Responders (Generic Stim Switch to Branded Stim)
 - Starts Generic Stim Month 1, ERx added for Non-Responders (Generic Stim Add ERx)
 - Generic Stim (Stim)
- Billed charge data was taken from the New Hampshire All-Payer Claims database for medication and office visits (Table 1).
- Rates for Stim success and switching were based on the literature.
- Generic pricing for Stim was used unless there was a switch to a branded Stim.

RESULTS

- The base case showed an average expected cost of \$2050 [95% CI \$2042, \$2058] for ERx (Table 2).

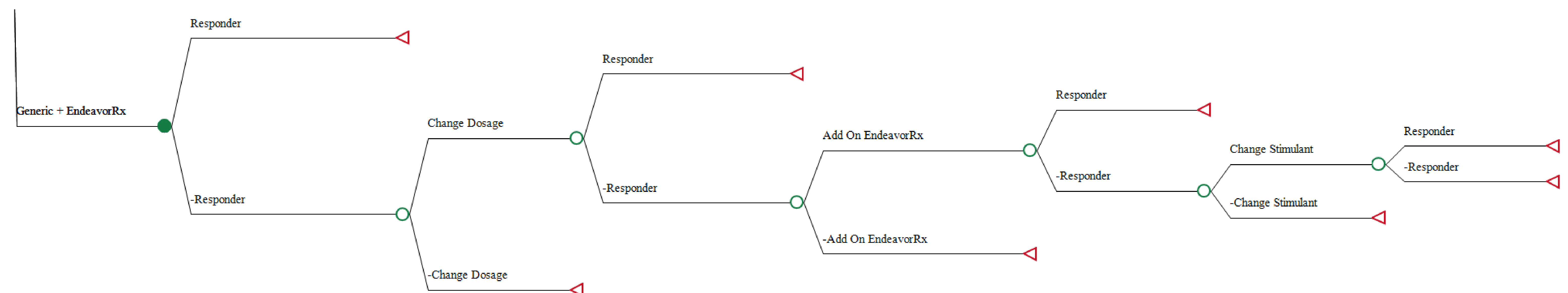
Table 2. Expected Means and Confidence Intervals (CI)

	Mean	[95% CI]
ERx	\$ 2,050	[\$2042, \$2058]
ERx + Generic Stim	\$ 4,387	[\$4363, \$4411]
Generic Stim+ CBT	\$ 5,507	[\$5471, \$5543]
Generic Stim Switch to Branded Stim	\$ 2,862	[\$2840, \$2885]
Generic Stim Add ERx	\$ 2,869	[\$2855, \$2883]
Generic Stim	\$ 2,878	[\$2857, \$2901]

CONCLUSIONS

- In all scenarios evaluated, ERx resulted in either cost savings or similar costs as was the case when comparing a generic stimulant switch to a branded stimulant (\$2862) or adding ERx to a generic stimulant (\$2869 (Figure 1).
- ERx provides patients, prescribers and payers another option for treating ADHD in children without increasing costs or concern of side effects as with stimulants.

Figure 1. Starts Generic Stimulant Month 1, Adds ERx for Non-Responders



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