



## INTRODUCTION

- Major Depressive Disorder (MDD) affects 8.4% of US adults<sup>1</sup>
- MDD symptoms can lead to reduced productivity, even among individuals treated with antidepressant medication<sup>2,3</sup>
- Productivity is often considered in economic evaluation, but its importance to adults living with MDD is unclear

## STUDY OBJECTIVES

- To quantify preferences for MDD patient-informed treatment attributes among adults with reduced productivity due to their MDD
- To compare the relative importance of treatment attributes among adults with reduced productivity

## METHODS

- Design** – Cross-sectional web-based survey conducted from June 2021 to March 2022
- Sample** – 300 community-dwelling adults across the US who were 18 and older living with MDD
- Recruitment** – ResearchMatch.org study participant panel
- Inclusion criteria** – Age 18 years or older; diagnosed with MDD; and speak & read English
- Exclusion criteria** – Diagnosed with bipolar, psychotic or cognitive disorder, post-partum depression; or residing in an institutional setting
- Study Instrument**
  - Telephone screener** – Research team determined eligibility and collected information on MDD treatment and Sheehan Disability Scale
  - Self-administered Survey** – discrete choice experiment (DCE), PHQ9 depression severity, diagnoses, medication use, and demographic characteristics
  - DCE** – 6 attributes, each with 3 levels (Table 1), orthogonal array design with 100% D-efficiency, and 6 choice tasks

## METHODS

Table 1. Attribute and Attribute Levels Included in the DCE

Attribute	Attribute Levels
Treatment Mode	1. Medicine 2. Medicine & Psychotherapy 3. Medicine, psychotherapy, & other services
Weeks to Treatment Effect	1. 4 weeks 2. 6 weeks 3. 9 weeks
Days Hopeful	1. 2 days/week 2. 4 days/week 3. 6 days/week
Productivity increases	1. 40% 2. 60% 3. 90%
Relations with people important to you	1. are strained 2. stay the same 3. are better
Monthly out-of-pocket (OOP) costs	1. \$30/month 2. \$90/month 3. \$270/month

If you could only choose 1 option for treating depression, which do you most prefer?

**OPTION A**  
Treatment is Medicine & Psychotherapy  
Feel some effects in 9 weeks  
Hopeful 6 days/week  
Productivity increases 40%  
Better relations with people important to you  
\$270 monthly out-of-pocket costs

**OPTION B**  
Treatment is Medicine, Psychotherapy, & Other Services  
Feel some effects in 4 weeks  
Hopeful 2 days/week  
Productivity increases 90%  
Strained relations with people important to you  
\$30 monthly out-of-pocket costs

**OPTION C**  
Treatment is Medicine  
Feel some effects in 6 weeks  
Hopeful 4 days/week  
Productivity increases 60%  
Relations with people important to you stay the same  
\$90 monthly out-of-pocket costs

- Statistical analysis** – DCE was analyzed using a conditional logit regression model to estimate the part-worth preference weights.
  - Relative attribute importance: proportion each attribute contributes to the sum of attribute level min-max differences
  - The Sheehan Disability Scale: number of days with reduced productivity in the last week due to depression<sup>4</sup>
    - Binary measure: ≤ 2 days and >2 days of reduced productivity

## RESULTS

- MDD patients with **> 2 days of reduced productivity** had a **significant preference for mode of treatment including Rx/therapy/other** services, but none of the treatment mode attribute levels were significant for those with ≤ 2 days of reduced productivity (**Figure 1**)
- Both groups preferred 90% productivity improvement, but only those in the **> 2 days group** had a **significantly lower preference for 40% improvement**
- The relative attribute importance for those with > 2 days lost productivity was highest for relationships, and for those in the ≤ 2 days out-of-pocket cost had the highest relative importance ranking (**Figure 2**)
- Productivity ranked fourth and fifth in relative attribute importance** for > 2 days and ≤ 2 days of reduced productivity, respectively

Table 2. Productivity Measure and Demographic Characteristics

		Overall (n=300)	Productivity*	
			≤ 2 days (n=110; 37%)	> 2 days (n=188, 67%)
Characteristics		n (%)	n (%)	n (%)
Age Group	18-29	96 (32.0)	34 (30.9)	62 (33.0)
	30-49	122 (40.7)	43 (39.1)	78 (41.5)
	50-84	82 (27.3)	33 (30.0)	48 (25.5)
Race	Non-Hispanic White	174 (58.0)	70 (63.6)	103 (54.8)
	Non-Hispanic Black	39 (13.0)	13 (11.8)	25 (13.3)
	Hispanic	39 (13.0)	12 (10.9)	27 (14.4)
	Non-Hispanic Other	48 (16.0)	15 (13.7)	33 (17.5)
Gender	Female	203 (67.7)	73 (66.4)	129 (68.6)
	Male	77 (25.7)	32 (29.1)	44 (23.4)
	Other	20 (6.6)	5 (4.6)	15 (8.0)
Marital status**	Married/domestic partnership	99 (33.0)	46 (41.8)	53 (28.2)
	Divorced/widowed	46 (15.3)	12 (10.9)	34 (18.1)
	Single	148 (49.3)	51 (46.4)	95 (50.5)
Education	College or graduate degree	219 (73.0)	86 (78.2)	132 (70.2)
Employment	Employed	163 (54.3)	61 (55.5)	101 (53.7)
Depression severity (PHQ-9 score)	None-mild (0-9)	82 (27.3)	54 (19.1)	42 (22.3)
	Moderate (10-14)	84 (28.0)	36 (60.0)	96 (51.1)
	Severe (15 or more)	134 (44.7)	20 (20.9)	50 (26.6)

Note: Race "Non-Hispanic Other" includes Asians and American Natives \*Sample size is equal to 298 because of missingness in the reduced productivity measure; \*\*Seven participants reported "Other" as their marital status

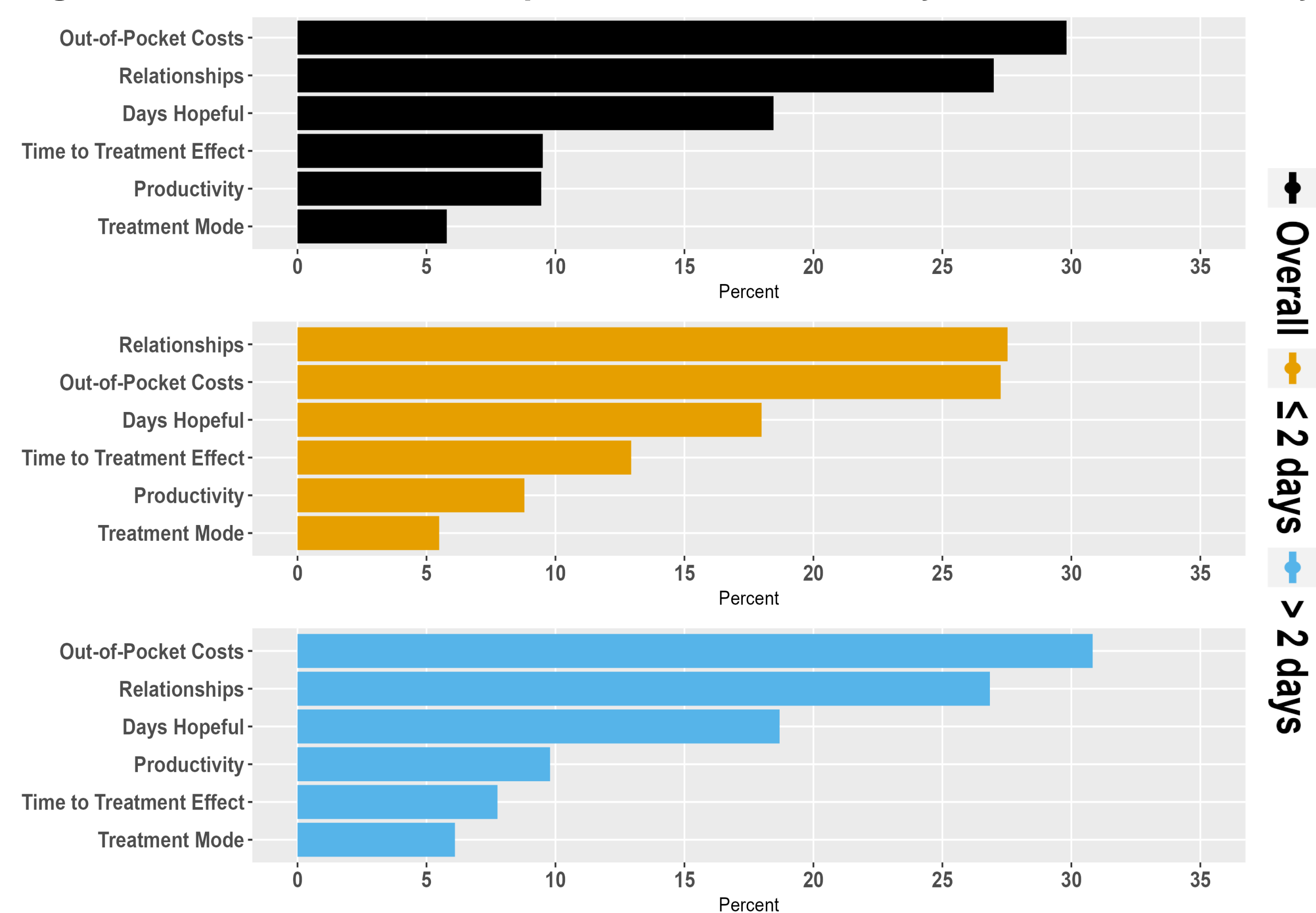
Figure 1. Patients' Preferences for Attribute of Treatment by Day Unproductive, n = 298\*



Note: ≤ 2 days= lower or equal to two days unproductive; > 2 days= more than two days unproductive Rx = MDD medicine; Therapy = Psychotherapy; OOP = Out-of-pocket cost. \*Sample size is equal to 298 because of missingness in the reduced productivity measure.

## RESULTS

Figure 2. Relative Attribute Importance, Overall and by Reduced Productivity



## DISCUSSION

- Preferences for patient-informed attributes of MDD treatment and outcomes vary by self-reported productivity loss in the past week
- Typically used in economic evaluation, productivity did not emerge as most preferred attribute, even for those with ≥ 2 days lost productivity
- Economic evaluation should address heterogeneity in the importance of productivity

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