

A Discrete Choice Experiment to Assess Patient-Informed Preferences for Major Depressive Disorder Treatment by Depression Severity

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PATIENT-DRIVEN
VALUES *in* HEALTHCARE
EVALUATION



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Patient communities and stakeholders who contributed their expertise, without which this work would not be possible

- **Major Depressive Disorder (MDD) affects 10% of US adults** ^[1]
 - 3-fold increase in depression symptoms during the COVID-19 pandemic ^[2]
 - 2/3 of adults with MDD have a severe impairment that affects their daily activities ^[3]
- **MDD treatment is available for symptom reduction and improved quality of life**
 - First-line treatment includes antidepressant medication and psychotherapy
 - 70% of adults with MDD have used an antidepressant at some point ^[4]
 - Brain stimulation techniques (e.g., electroconvulsive therapy) are used if non-responsive to medication or psychotherapy ^[5]

- **Available MDD treatment options vary in their benefits and risks, potentially affecting individual preference [7,8]**
 - As many as 50% of individuals are non-adherent to depression treatment [8]
- **Patients' preferences for treatment can be quantified using discrete choice experiments (DCEs)**
 - DCE: stated preference method designed to elicit individual preferences [9]
- **Prior research using DCEs show that the treatment attributes that patients prefer are treatment type (medication and counseling), location (telephone), cost (lower per consultation)**

- **Limited information is available that quantifies patient preferences for treatment and outcomes that reflect an individual's journey living with MDD**
 - Our team's formative research identified key patient-informed value elements for inclusion in an instrument to measure preferences for MDD treatment ^[8, 10]
- **Research objectives**
 - (1) To quantify preferences for patient-informed attributes of MDD treatment overall (e.g., full sample) and by depression severity subgroups
 - (2) To compare the relative importance of treatment attributes, overall and by depression severity

- **Design**

- Cross-sectional survey
- Data collection: June 2021 – March 2022

- **Sample**

- 300 community-dwelling adults aged 18 and older living with MDD
- Response rate = 45%

- **Recruitment**

- Across the US via ResearchMatch.org
 - Call for participation specifically targeted diversity groups

INCLUSION CRITERIA
<ol style="list-style-type: none">1. Age 18 years or older2. Diagnosed with MDD3. Speak & read English
EXCLUSION CRITERIA
<ol style="list-style-type: none">1. Diagnosed with bipolar, psychotic, or cognitive disorder2. Diagnosed with post-partum depression3. Currently residing in an institutional setting

- **Screeners** – web-based, research team telephone administered
 - Inclusion/exclusion criteria
 - MDD treatment
 - Sheehan Disability Scale
- **Survey** - web-based, self-administered
 - Discrete Choice Experiment (DCE)
 - Depression severity – PHQ9
 - Demographic

- **DCE**
 - 6 attributes each with 3 levels
 - treatment modality
 - time to effect
 - days of hopefulness
 - improvement in productivity
 - relationship with others
 - out-of-pocket costs
 - Orthogonal array design with 100% D-efficiency
 - 6 choice tasks



Attribute Domain	Attribute & Attribute Levels
Mode of Treatment	Your treatment will include 1. Medicine 2. Medicine & Psychotherapy 3. Medicine, psychotherapy, & other services
Time to Treatment Helpfulness	Feel some effects in 1. 4 weeks 2. 6 weeks 3. 9 weeks
MDD Relief	Hopeful 1. 2 days/week 2. 4 days/week 3. 6 days/week
Quality of Work	Productivity increases 1. 40% 2. 60% 3. 90%
Interaction with Others	Relations with people important to you 1. are strained 2. stay the same 3. are better
Affordability	Monthly out-of-pocket 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

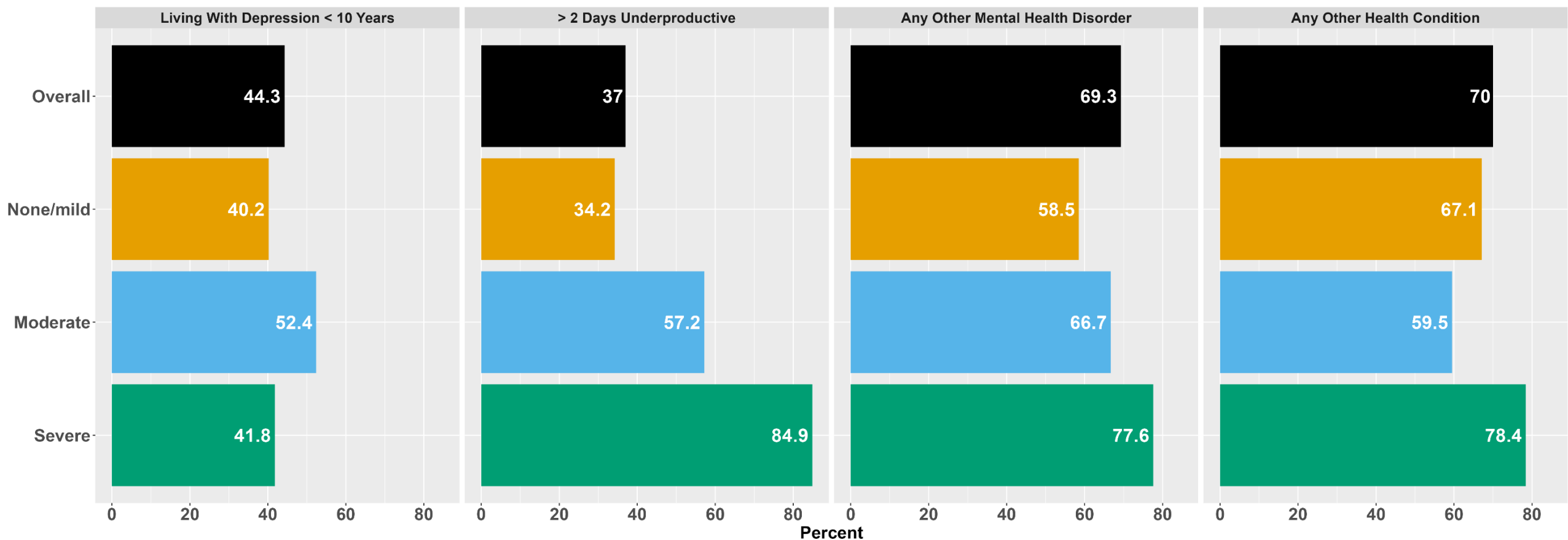
Treatment is Medicine
 Feel some effects in 6 weeks
 Hopeful 4 days/week
 Productivity increases 60%
 Relations with people important to you stay the same
 \$90 monthly out-of-pocket costs



- Depression severity subgroups based on the PHQ-9 total scale score
 - **None-Mild:** 0-9 score (n = 82)
 - **Moderate:** 10-14 score (n = 84)
 - **Severe** (includes moderate/severe): 15-27 score (n = 134)
- Four conditional logit models generated preference weights for each attribute level, overall and severity subgroups
- Relative attribute importance was estimated for each of the 6 attributes, overall and severity subgroups

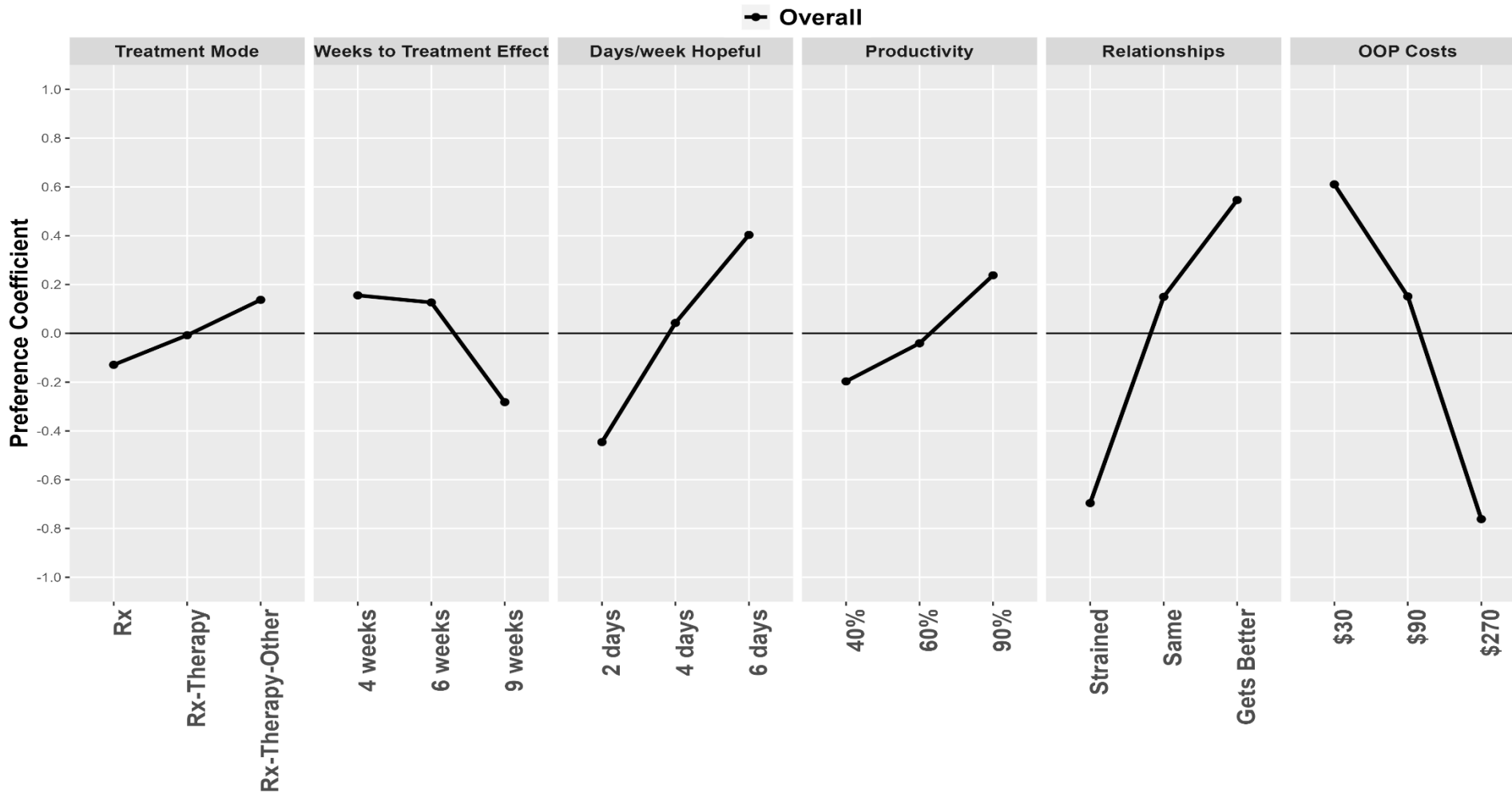
Characteristics		Overall (n=300)	None-mild (n=82; 27%)	Moderate (n=84, 28%)	Severe (n=134; 45%)
		n (%)	n (%)	n (%)	n (%)
Age Group	18-29	96 (32)	25 (31)	28 (33)	43 (32)
	30-49	122 (41)	32 (39)	31 (37)	59 (44)
	50-84	82 (27)	25 (30)	25 (30)	32 (24)
Race	Non-Hispanic White	174 (58)	54 (67)	47 (56)	73 (55)
	Non-Hispanic Black	39 (13)	11 (13)	12 (14)	16 (12)
	Hispanic	39 (13)	6 (7)	13 (16)	20 (15)
	Non-Hispanic Other	48 (16)	11 (13)	12 (14)	25 (18)
Gender	Female	203 (68)	55 (67)	52 (62)	96 (72)
	Male	77 (26)	25 (31)	24 (29)	28 (21)
	Transgender/non-binary	20 (6)	2 (2)	8 (9)	10 (7)
Marital status*	Married/domestic partnership	99 (33)	35 (43)	27 (32)	37 (28)
	Divorced/widowed	46 (15)	10 (12)	11 (13)	25 (12)
	Single	148 (49)	35 (43)	44 (52)	69 (52)
Education	College or graduate degree	219 (73)	72 (88)	66 (79)	81 (61)
Employment	Employed	163 (54)	47 (57)	49 (58)	67 (50)
Health Insurance	Private	161 (55)	45 (55)	50 (60)	66 (49)

PAVE Depression Measures: Overall and by Severity



Overall (full sample) n = 300. Depression severity categories based on the PHQ-9 total scale score: **None-Mild** = 0-9 (n = 82), **Moderate** = 10-14 (n = 84), and **Severe** (includes Moderate/Severe; n = 134) = 15 or more. **> 2 Day unproductive** = days in a week unproductive because depression symptoms, **Any mental health disorder** (Anxiety, ADHD, PTSD, OCD, SUD, Alcohol, Other), **Any other health conditions** (Arthritis, Heart disease, High cholesterol, Hypothyroid, Autoimmune disease, Diabetes, Cancer, Kidney, Epilepsy/Seizures)

PAVE Preferences for Attributes of MDD Treatment



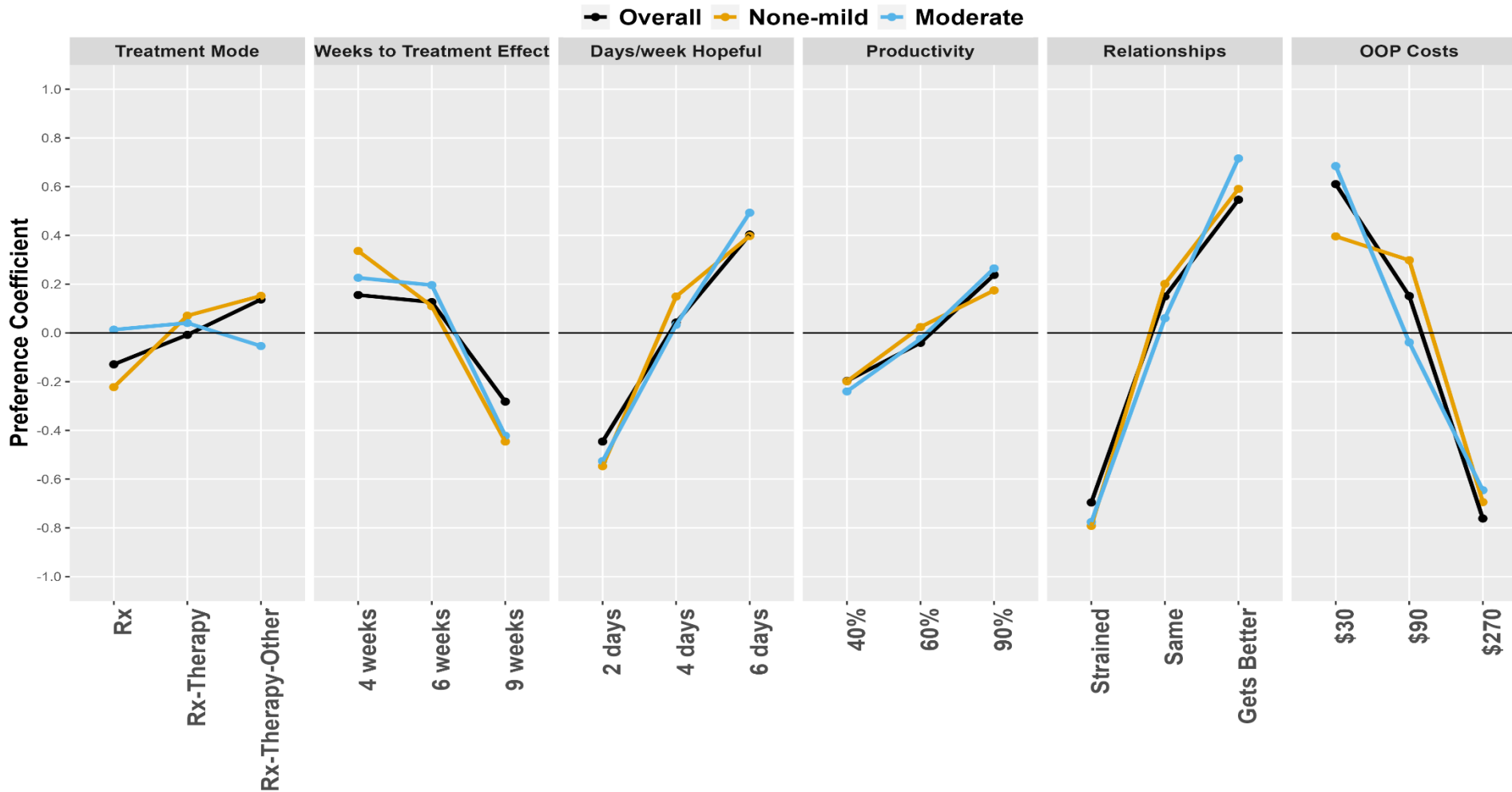
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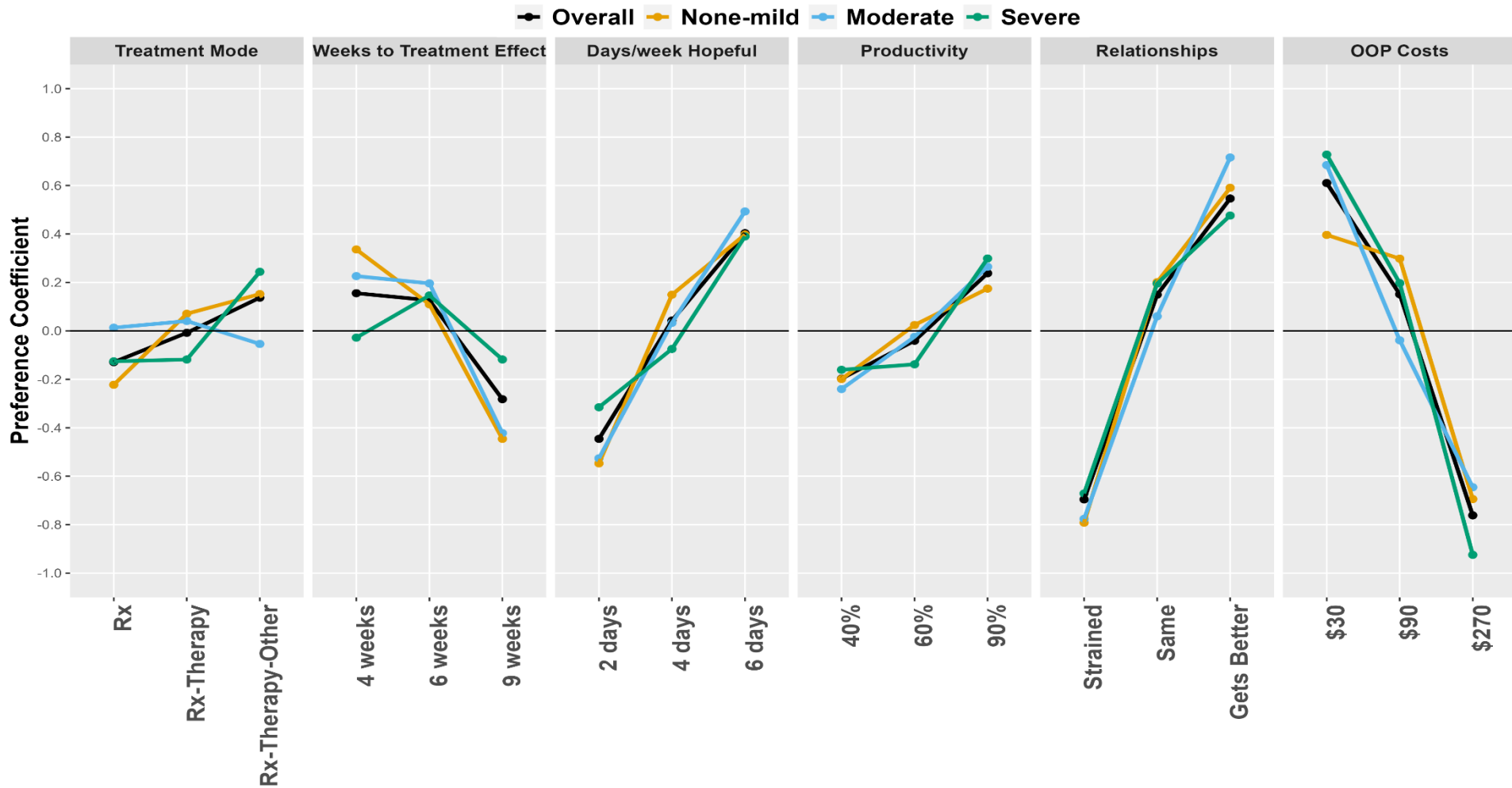
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PAVE Preferences for Attributes of MDD Treatment

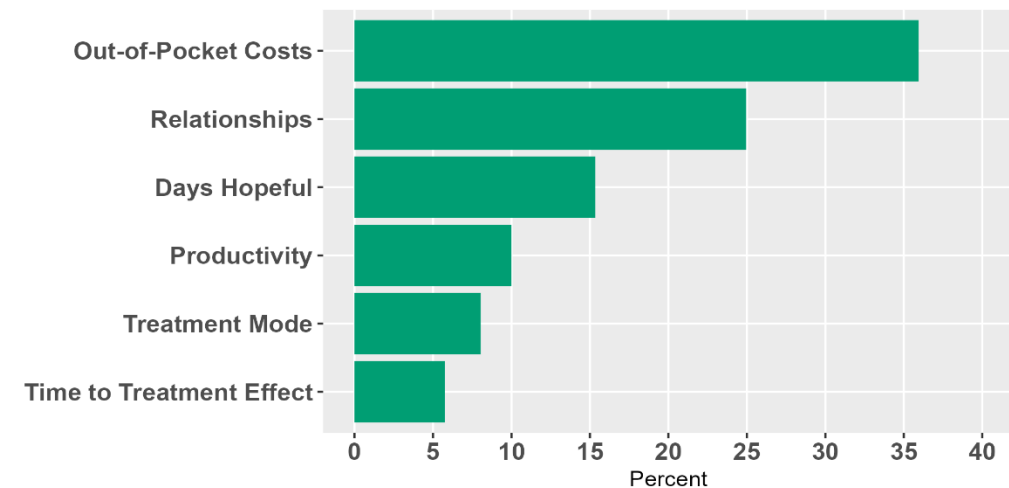
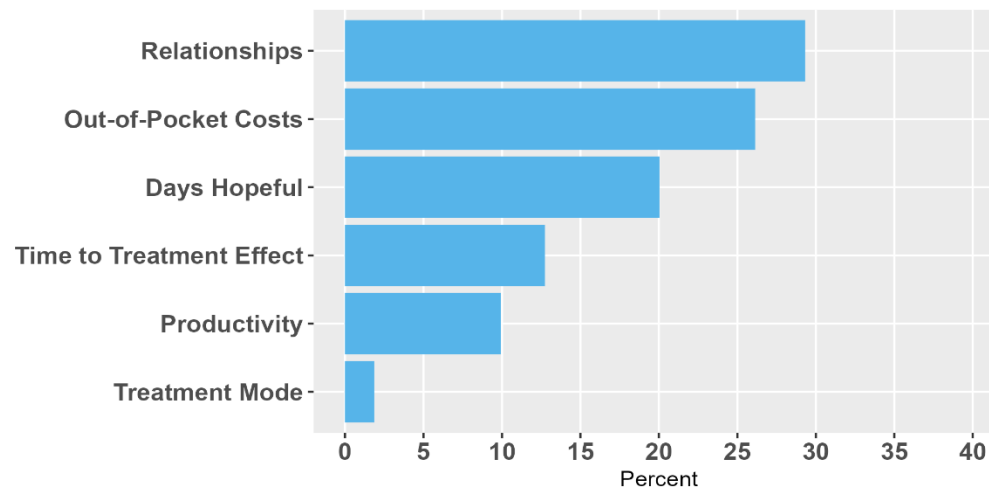
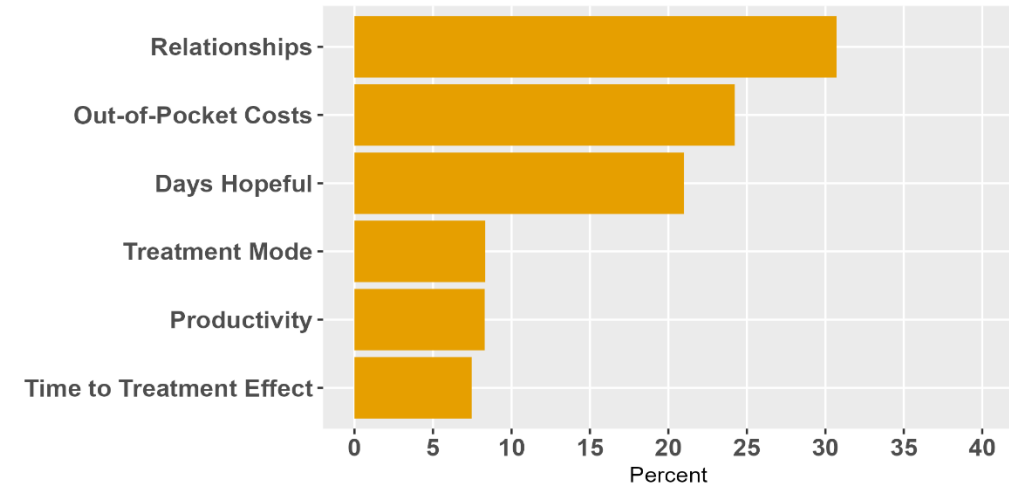
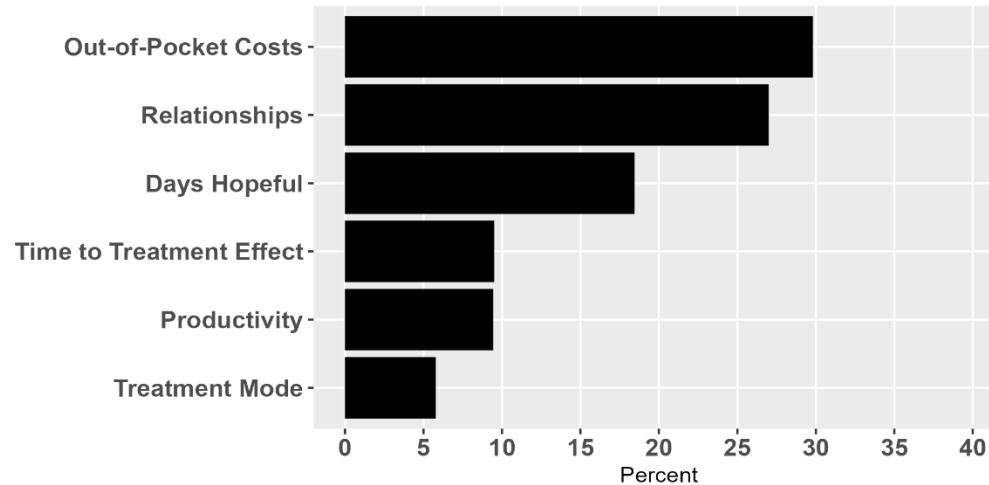


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Relative Attribute Importance



Overall
 None-mild
 Moderate
 Severe



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- **MDD patients showed preferences for patient-informed attributes of treatment and outcomes, but these vary by severity**
 - Relations with others was nearly as important as out-of-pocket costs, except for patients with severe depression
- **Attributes typically used in economic evaluation (e.g., productivity and treatment effect) did not emerge as the most preferred**
- **Social and life impact outcomes (e.g., relationships with others) are preferred over time to treatment effect or productivity**
 - To reflect patient value more thoroughly, these attributes should be considered in value assessments as well

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