Supplementary Material

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Appendix 1:

Algorithm for identifying medication use for antidepressant augmentation in the treatment of major depressive disorder.

If the respondent reported using an atypical antipsychotic medication, lithium, lamotrigine, modafinil, pramipexole, lisdexamfetamine or thyroid hormone for major depressive disorder (F32.9, F33.9), "unspecified mood disorder" (F39), or complaints related to depressive symptoms (e.g., insomnia, G47.0), their use was categorized as augmentation. Additionally, atypical antipsychotic medications were considered as augmentations if not used for schizophrenia (F20), other psychotic disorders (e.g., F29), bipolar disorder (F31.9), anxiety disorders (F41.0, F41.9), and other psychiatric disorders such as attention-deficit/hyperactivity disorder (F90), post-traumatic stress disorder (F43.1) and pervasive developmental disorder (F84). Lithium and lamotrigine used for bipolar disorder (F31.9); lamotrigine used for epilepsy (G40); modafinil used for narcolepsy (47.4) and sleep apnea (47.3); pramipexole for Parkinson disease (G20, G21), restless leg syndrome (G25.81) and essential tremor (G25.0); and lisdexamfetamine used for the treatment of attention deficit hyperactivity disorder (F90) were not considered antidepressant augmentation treatment. Thyroid hormone use was not considered as augmentation if the reason for use was related to hypothyroidism (E03.9), another thyroid disease (E06, E07.9, E04, E05, C73), or a related physical health complaint, such as edema (R60.9).

Appendix 2: Adjusted analyses for the alternative definition of depression remission (PHQ-9 score<10) in 869 respondents taking antidepressant medication for depression, 2013-2018.[a]

	AOR[b]	95% CI[c]	p
Sex			
Women	1.00	--	
Men	1.31	0.78-2.20	.300
Age, years			
18-29	1.00	--	
30-39	1.10	0.35-3.46	.861
40-49	0.96	0.32-2.88	.945
50-64	1.38	0.57-3.35	.473
≥65	3.03	1.02-9.00	.046
Race/ethnicity			
Non-Hispanic White	1.00	--	
Non-Hispanic Black	1.17	0.57-2.40	.670
Hispanic	0.85	0.39-1.87	.687
Other	0.66	0.29-1.51	.320
Income, compared to Federal Poverty Level (%)			
<100	1.00	--	
100-199	0.93	0.50-1.75	.820
≥200	1.12	0.61-2.06	.714
Education			
Less than high school	1.00	--	
High school/GED	1.62	0.80-3.29	.174
Some college or more	3.07	1.53-6.13	.002
Medical conditions[d]			
Arthritis	0.68	0.40-1.14	.141
Lung disease	0.76	0.49-1.17	.205
Diabetes mellitus	0.61	0.33-1.12	.110
Hypertension	0.83	0.50-1.38	.454
Heart disease	0.40	0.19-0.87	.021
Number of healthcare visits in the past year			
0-3	1.00	--	
4-9	0.45	0.27-0.77	.004
≥10	0.39	0.22-0.72	.003
Any mental health provider contacts in the past year			
No	1.00	--	
Yes	0.27	0.16-0.44	<.001
Health insurance[e]			
Private insurance	1.78	1.08-2.94	.025
Medicaid	1.78	0.94-3.36	.075
Medicare	0.66	0.39-1.12	.122
Other insurance	1.25	0.77-2.02	.361
Type of antidepressant			
SSRI	1.00	--	
Non-SSRI	0.77	0.49-1.21	.251
Length of antidepressant medication treatment			
>3 months-1 year	1.00	--	

	AOR	CI	p
>1 year-2 years	1.03	0.49-2.15	.940
>2 years	0.85	0.53-1.38	.512

[a.] Data from 2013-2018 National Health and Nutrition Examination Survey. Model adjusted for all variables in the table.
[b.] AOR stands for the adjusted odds ratio.
[c.] CI stands for the confidence interval.
[d.] Respondents with each condition were compared to all other respondents.
[e.] Respondents with each type of health insurance were compared to all other respondents.

Appendix 3: Augmentation regimens in 144 respondents taking antidepressant medications for depression whose depression had not remitted at the time of the interview, 2013-2018.[a]

Augmentation treatment	N	%[b]
Antidepressants of different class	104	71.7
SSRI-Bupropion	47	31.8
SSRI-Tricyclic	17	13.2
SNRI-Bupropion	14	9.7
Tricyclic-Bupropion	14	9.7
SSRI-SNRI	11	6.4
SNRI-Tricyclic	10	5.7
SSRI-Tetracyclic	6	4.5
SNRI-Tetracyclic	5	2.1
Tetracyclic-Bupropion	3	1.1
Tricyclic-Tetracyclic	2	2.7
SNRI-Other antidepressants	0	0.0
Tricyclic-Other antidepressants	0	0.0
Tetracyclic-Other antidepressants	0	0.0
Bupropion-Other antidepressants	0	0.0
SSRI-Other antidepressants	0	0.0
Atypical antipsychotic medications		
Any atypical antipsychotics	38	25.7
Aripiprazole	14	8.6
Quetiapine	6	4.0
Risperidone	4	1.0
Lamotrigine	11	10.7
Thyroid hormone	4	0.9
Modafinil	2	0.9
Lisdexamfetamine	2	2.4
Pramipexole	0	0.0
Lithium	0	0.0

[a.] Data from 2013-2018 National Health and Nutrition Examination Survey.
[b.] Percentages are weighted and add up to more than 100% because some respondents used more than 1 augmentation treatment.

Appendix 4: Adjusted analyses for augmentation treatment among respondents taking antidepressant medications for depression whose depression had not remitted based on the alternative definition of remission (PHQ-9 score<10) at the time of the interview, 2013-2018.[a]

	AOR[b]	95% CI[c]	*p*
Sex			
Women	1.00	--	
Men	0.74	0.28-1.98	.541
Age, years			
18-29	1.00	--	
30-39	7.88	1.36-45.83	.023
40-49	5.35	0.90-31.88	.065
50-64	3.15	0.73-13.57	.121
≥65	1.39	0.28-6.80	.678
Race/ethnicity			
Non-Hispanic White	1.00	--	
Non-Hispanic Black	0.44	0.12-1.63	.216
Hispanic	0.53	0.13-2.11	.358
Other	0.05	0.01-0.27	.001
Income, compared to Federal Poverty Level (%)			
<100	1.00	--	
100-199	0.79	0.19-3.30	.739
≥200	3.32	1.13-9.79	.030
Education			
Less than high school	1.00	1.00	
High school/GED	4.54	1.05-19.66	.044
Some college or more	1.20	0.27-5.32	.802
Medical conditions[d]			
Arthritis	2.16	0.72-6.41	.163
Lung disease	1.46	0.63-3.39	.367
Diabetes mellitus	1.13	0.47-2.74	.779
Hypertension	1.59	0.67-3.78	.288
Heart disease	2.27	1.03-5.01	.043
Number of health care visits in the past year			
0-3	1.00	--	
4-9	1.18	0.25-5.56	.830
≥10	0.67	0.14-3.22	.610
Any mental health provider contacts in the past year			
No	1.00	--	
Yes	8.91	4.08-19.47	<.001
Health insurance[e]			
Private insurance	2.51	0.88-7.19	.085
Medicaid	1.78	0.61-5.21	.285
Medicare	0.78	0.24-2.54	.673
Other insurance	1.06	0.38-2.94	.913
Type of antidepressant			
SSRI	1.00	--	
Non-SSRI	0.48	0.20-1.16	.101
Length of antidepressant medication treatment			
>3 months-1 year	1.00	--	

>1 year-2 years	0.71	0.20-2.58	.597
>2 years	0.72	0.27-1.94	.507

a. Data from 2013-2018 National Health and Nutrition Examination Survey. Model adjusted for all variables in the table.
b. AOR stands for the adjusted odds ratio.
c. CI stands for the confidence interval.
d. Respondents with each condition were compared to all other respondents.
e. Respondents with each type of health insurance were compared to all other respondents.