

Chapter 5: Pharmacy Utilization

Background

Antidepressant medications are an important component of depression treatment. Recent meta-analyses of studies comparing patients receiving newer antidepressants to patients receiving placebo found a 20% differential in improvement rates (Snow, Lascher, and Mottur-Pilson 2000; Williams et al. 2000).

However, depressed patients may not receive antidepressants or continue on them for sufficient periods of time. Haphazard use of antidepressant may incur costs without commensurate patient benefits. In 2000, the cost of psychotropic medications was estimated to be in the range of 16-25% of total pharmacy costs (Schreter, 2000). However, studies suggest that 30% to 70% of depressed patients discontinue their antidepressant treatment prematurely (Hylan et al. 1999; Melfi et al. 1998).

In this report, we examine the use of antidepressants and other psychotropic medication classes among depressed veterans. Appendix C lists the medications included in each psychotropic class.

Antidepressant Use

A large majority (92%) of depressed patients treated in specialty care received a psychotropic agent in FY02. Most (87%) received an antidepressant. The mean number of antidepressant prescription fills was 8.6 and the median number of fills was 7.0, suggesting that in this prevalent sample, many patients were using antidepressants for long periods of time. (86% of fills were for a thirty day supply.)

Using performance measures developed with the VA Office of Quality and Performance, we also examined the adequacy of antidepressant coverage for patients with new episodes of depression, treated with an antidepressant. Patients were considered to have a new episode of depression if they did not have a depression diagnosis in the previous 120 days before the index diagnosis, nor antidepressant fills 90 days before their index antidepressant start. We identified 20,575 VA patients with new episodes of depression in FY02 in primary care and specialty settings. Approximately 64% of these patients received adequate antidepressant coverage during the acute treatment phase, defined as having antidepressants on hand for ≥ 12 of the 16 weeks following the antidepressant start. This compares favorably with many managed care organizations (Quality Compass, 2002).

The switch to newer antidepressants appeared to be almost complete by FY02, with few depressed veterans receiving tricyclic antidepressants or monamine oxidase inhibitors. In FY02, amitriptyline, doxepin, and nortriptyline were the most commonly prescribed tricyclic antidepressants, but only 7%, 2.5%, and 2.4% of depressed specialty patients were prescribed these medications, respectively. Trazodone was the most commonly

prescribed newer antidepressant, likely because of its hypnotic effect. Sertraline was the next most commonly prescribed; 26% of depressed veterans received a prescription for trazodone and 23% received a prescription for sertraline in FY02. The next most commonly prescribed antidepressants were citalopram, bupropion, fluoxetine, and paroxetine.

Use of Adjunctive Medications

The use of adjunctive medications was common among depressed veterans. Only 33% of veterans used medications from just one psychotropic class during the year. Eight percent of depressed veterans received medications from 4 or more psychotropic classes during FY02 and eight percent received no psychotropic medication during FY02. Use of multiple psychotropic classes was strongly associated with psychiatric comorbidity.

Table 5.A: Number of Psychotropic Classes Received, by Diagnosis Grouping

Number of Classes	Depression alone/ONLY with OthAnx (N=158,768)	Depression + any Sabuse (N=67,890)	Depression + any PTSD (N=57,720)	Other Complicated Dep (N=20,744)	Overall
0	9.0%	9.5%	4.7%	4.8%	8.0%
1	38.9%	30.4%	25.9%	20.5%	33.3%
2	33.4%	29.7%	34.2%	33.4%	32.7%
3	14.2%	18.7%	22.5%	26.2%	17.6%
>=4	4.5%	11.6%	12.6%	15.2%	8.4%

In addition to examining use of the various psychotropic classes during the year, we examined concurrent use of different classes. Concurrent use was defined as at least a 60 day overlap in days covered by prescription fills. We found that 15.5% of depressed

patients had concurrent prescriptions for an antidepressant and a mood stabilizer, 15.3% had concurrent prescriptions for an antidepressant and an antipsychotic, and 25.9% had concurrent prescriptions for an antidepressant and a benzodiazepine.

Benzodiazepine Use

Benzodiazepine use was particularly common among depressed veterans, with 32% of depressed veterans filling at least one prescription for these medications in FY02. Contrary to depression treatment guidelines, most of the treatment with benzodiazepines appears to be long term. Registry data from FY01 indicated that 78% of depressed benzodiazepine users continued on these medications for ≥ 90 days and 61% continued for ≥ 180 days (Valenstein et al, in press).

Antipsychotic and Mood Stabilizer Use

Depressed patients commonly received both antipsychotics and mood stabilizers, despite the exclusion of patients with Bipolar I Disorder. Approximately 19% of all depressed patients received an antipsychotic. The use of antipsychotics was not limited to patients with depression accompanied by schizophrenia or dementia, which comprised 2% and 3% of depression registry patients, respectively. Ten percent of patients with diagnoses of depression alone and 25% of patients with comorbid depression and PTSD were treated with antipsychotics. Currently there are few data supporting the use of antipsychotics for patients with depression or PTSD, unaccompanied by psychotic symptoms. Only one small randomized controlled trial (RCT) supports the efficacy of atypical antipsychotics in refractory major depression, and only one RCT supports use of antipsychotics among patients with PTSD (Stein, 2002). However, antipsychotic use appears to be a common treatment strategy for depressed patients.

Approximately 19% of depressed patients received a mood stabilizer during the year, despite exclusion of patients with bipolar disorder. Lithium has long been known to be a useful adjunctive treatment, when depressed patients have only a partial response to antidepressants. However, the most commonly used mood stabilizers among depressed veterans in FY02 were gabapentin and valproate, used by 65% and 28%, respectively, of depressed patients using a mood stabilizer.

Pharmacotherapy of Patients with Comorbid Conditions

There was a significant influence of comorbidity on all combination pharmacological treatment, with comorbid patients being much more likely to receive multiple psychotropic agents.

Table 5.D gives a detailed view of psychotropic use across comorbidity groups.

Table 5.B: Use of Psychotropic Classes, by Diagnosis Grouping

	Dep alone or w/OthAnx	Dep + SAbuse	Dep + PTSD	Other complicated Dep	Overall
	158,768	67,890	57,720	20,744	N=305,122
Psychotropic use in FY02	91.0%	90.5%	95.3%	95.2%	92.0%
Antidepressants	86.6 %	84.8 %	91.3 %	83.0 %	86.9 %
Alcohol Treatment	0.1 %	4.4 %	0.15 %	0.1 %	1.1 %
Antihistamine/ Antiparkinson	11.8 %	22.7 %	16.8 %	20.3 %	15.7 %
Benzodiazepines	31.3 %	25.9 %	41.4 %	34.6 %	32.2 %
Other Antianxiety	8.8 %	10.7 %	14.1 %	8.8 %	10.2 %
Mood Stabilizers	16.2 %	21.5 %	24.1 %	22.6 %	19.3 %
Antipsychotics	9.8 %	25.0 %	24.9 %	46.5 %	18.5 %
Stimulants	1.4%	0.7 %	1.3 %	1.3 %	1.2 %
Anticholinesterases	1.4 %	0.5 %	1.4 %	13.2 %	2.0 %
Use of >=4 Psychotropic Classes, %	4.5%	11.6%	12.6%	15.2%	8.4%

Table 5.C: Use of Antidepressants, by Diagnosis Grouping

	Dep alone or w/OthAnx (%)	Dep + SAbuse (%)	Dep + PTSD (%)	complicated Dep (%)	Overall (%)
	158,768	67,890	57,720	20,744	N=305,122
Amitriptyline	7.2%	6.4%	7.0%	5.6%	6.9%
Desipramine	0.6%	0.5%	0.6%	0.5%	0.5%
Doxepin	2.1%	3.0%	3.0%	2.2%	2.5%
Imipramine	0.7%	0.5%	0.8%	0.7%	0.7%
Clomipramine	0.2%	0.2%	0.2%	0.3%	0.2%
Nortriptyline	2.5%	1.8%	2.8%	2.5%	2.4%
Phenelzine	0.1%	0.04%	0.1%	0.1%	0.1%
Tranlycypromine	0.04%	0.03%	0.03%	0.02%	0.03%
Bupropion	15.6%	16.1%	18.2%	12.7%	16.0%
Citalopram	20.5^	21.2%	22.7%	19.1%	21.0%
Fluoxetine	14.2%	13.0%	14.4%	13.0%	13.9%
Nefazodone	4.2%	6.2%	9.2%	3.6%	5.6%
Paroxetine	13.3%	13.7%	13.4%	12.7%	13.4%
Sertraline	22.7%	22.0%	25.3%	23.5%	23.1%
Trazodone	20.5%	34.6%	31.0%	21.0%	25.6%
Venlafaxine	8.4%	8.6%	10.3%	8.4%	8.8%
Mirtazapine	7.6%	11.2%	10.7%	7.5%	9.0%

Table 5.D: Use of Psychotropic Medications in FY02, by Detailed Diagnosis Grouping

	Depression only (%)	Depression + PTSD (%)	Depression + Schiz (%)	Depression + Bipolar2 (%)	Depression + Dementia (%)	Depression + SubAbuse (%)	Dep + SAbuse + PTSD (%)	Depression + Other Anxiety (%)	Other, three or more (%)	Overall (%)
Detailed Patient Groups N (%)	122429 (40%)	39867 (13%)	7057 (2%)	1197 (0.4%)	7708 (3%)	30789 (10%)	14153 (5%)	36339 (12%)	45583 (15%)	305122 (100%)
OVERALL PSYCHOTROPIC USE, %										
Use of any Psychotropic,	89.60	94.38	95.71	95.49	93.73	84.70	94.27	95.63	96.53	91.97
Use of >=4 Psychotropics	3.55	10.22	18.24	11.61	9.42	4.36	13.45	7.80	19.36	8.35
USE OF PSYCHOTROPIC CLASSES, %										
Alcohol Treatment	0.09	0.13	0.13	0.25	0.04	4.26	4.63	0.07	2.33	1.06
Antihistamine/parkins.	10.93	15.45	28.69	13.95	12.69	17.35	22.81	14.51	25.02	15.72
Benzodiazepine	24.14	35.89	33.73	27.90	25.29	16.43	26.55	55.43	45.83	32.24
Other Antianxiety	6.91	12.92	7.47	7.35	6.97	6.05	13.22	14.99	15.74	10.20
Mood Stabilizers	16.03	23.06	23.24	48.45	17.01	15.00	25.13	16.77	26.98	19.31
Antidepressants	85.62	91.07	74.76	86.72	87.22	79.13	90.89	89.97	89.92	86.88
Antipsychotics	9.31	21.67	76.41	24.23	23.94	12.10	29.41	11.28	37.11	18.51
Stimulants	1.41	1.24	0.79	2.67	1.45	0.56	0.69	1.28	1.17	1.21
Anticolinesterases	1.43	0.85	1.13	1.25	27.52	0.32	0.16	1.11	2.64	1.98
USE OF ANTIDEPRESSANTS, %										
Amitriptyline	7.11	6.87	4.73	6.27	5.83	5.87	6.49	7.27	7.07	6.85
Desipramine	0.54	0.55	0.61	0.50	0.39	0.43	0.43	0.57	0.60	0.54
Doxepin	1.91	3.04	2.69	1.67	1.61	2.20	3.94	2.83	3.13	2.48
Imipramine	0.61	0.67	0.62	0.67	0.56	0.29	0.47	0.90	0.92	0.66
Clomipramine	0.13	0.14	0.33	0.25	0.18	0.08	0.16	0.31	0.30	0.18
Nortriptyline	2.45	2.69	2.17	2.26	2.58	1.46	1.91	2.79	2.61	2.42
Phenelzine	0.08	0.05	0.04	0.25	0.03	0.03	0.06	0.13	0.08	0.08
Tranlycypromine	0.04	0.03	0.01	0.08	0.03	0.03	0.01	0.03	0.03	0.03
Bupropion	15.87	18.51	10.50	22.47	13.08	15.24	18.17	14.48	16.23	15.98
Citalopram	19.85	22.09	13.76	21.47	21.78	19.58	22.29	22.80	23.14	20.99
Fluoxetine	14.50	14.64	13.05	16.54	12.29	12.45	13.74	13.14	13.51	13.88
Nefazadone	3.92	9.15	3.09	5.26	2.91	4.12	9.31	5.23	7.74	5.56
Paroxetine	11.76	12.08	10.80	11.53	12.14	10.83	13.23	18.54	17.03	13.36
Sertraline	22.58	25.18	19.75	17.13	27.66	19.30	25.92	23.06	24.22	23.09
Trazodone	19.83	31.16	20.22	22.31	19.62	28.62	42.34	22.56	33.56	25.63
Venlafaxine	8.02	9.98	6.86	11.86	7.58	6.53	9.15	9.85	11.01	8.82
Mirtazapine	7.06	10.42	5.04	8.94	8.10	8.69	13.58	9.45	12.01	8.98

Number of patients

Visn1	Visn2	Visn3	Visn4	Visn5	Visn6	Visn7	Visn8	Visn9	Visn10	Visn11	Visn12	Visn15	Visn16	Visn17	Visn18	Visn19	Visn20	Visn21	Visn22	Vi 23
15,261	8,357	11,389	13,786	7,424	13,955	17,387	28,388	14,096	12,800	12,166	11,393	14,167	27,988	13,648	13,329	8,791	15,508	13,814	17,217	14,258

Section 5: Medication Use, by VISN

	% Use by VISN																					All
	Visn1	Visn2	Visn3	Visn4	Visn5	Visn6	Visn7	Visn8	Visn9	Visn10	Visn11	Visn12	Visn15	Visn16	Visn17	Visn18	Visn19	Visn20	Visn21	Visn22	Visn23	
>=4 Psychotropics	8.2	8.9	8.8	7.6	7.6	8.6	11.4	8.4	10.2	7.2	6.5	7.9	9.3	9.7	8.5	6.6	8.7	7.9	7.4	7	6.5	8.4
Psychotropics	90	87.5	89.4	90.8	84.9	94.1	95	94.1	96	92	90.9	88.1	94.6	94.3	94.1	91	91.1	92.1	88.2	90.1	91.3	92
Antidepressant	83	81.1	82.6	85.7	79.1	88.5	90.1	89	92	86.8	85.7	82	90.7	90.3	90.9	85.6	86.8	88.2	81.6	83.7	86.8	86.8
Antipsychotic	21.3	18.2	20.4	19.4	18.8	18.5	24.7	18.4	18.6	15.6	15.9	17.2	21.1	20.5	19.7	13	21	14	18.1	17.2	14.5	18.5
Benzodiazepines	30.9	28.1	25.2	31	22.5	39.4	40.6	41.7	38.1	30.1	34.8	28.9	35.2	27.8	32.1	38.6	30	22.9	27.4	32.2	25	32.2
Other Antianxiety	12.4	19.5	19.7	7.2	13.1	8.7	7.1	7.1	11.1	7.6	5.7	15.4	8.6	13	10.2	6.2	7.3	13.3	9.3	6.8	12.2	10.2
Mood Stabilizers	20.4	18.4	17.3	19.4	16.2	19.4	24.4	20.5	22.1	18	15.6	19.4	20.9	19.4	18.2	16.2	18.4	17.7	20	18.9	19	19.3
Stimulants	1.6	1.1	1.2	0.8	1.5	0.9	1.2	0.6	0.5	1	1.2	1.8	1.2	0.6	1	1.7	2.8	1.9	1.2	1.4	2.1	1.2
Anticholinesterase	1.5	1.7	2.8	2	1.2	1.7	1.9	3.2	2.1	1.9	1.3	1.4	2.4	2.6	2.2	1.6	1.2	1.2	0.9	2.1	2	2
Antihistamine/Antiparkinson	8.7	11.8	13.3	13.5	12.2	16.8	19.2	16.2	22.8	18.5	14.7	10.9	16	22.5	18	14.8	12	17.6	14.4	13.5	9.8	15.7
Alcohol Treatment	2.4	0.5	0.5	0.7	1.3	0.8	1	0.5	0.8	0.7	1	1.3	0.8	0.6	1.2	0.7	2.2	2.6	1.4	0.5	1.7	1.1
Amitriptyline	5.1	5.1	4.1	6.6	6.4	7.7	7.4	5.8	9.2	8.8	5.8	5.7	7.8	8.4	7.8	7.5	7.2	6.4	6.8	6.6	5.9	6.8
Desipramine	0.6	0.6	0.3	0.5	0.4	0.3	0.4	0.4	1	0.9	0.2	0.5	0.3	0.3	0.4	1	1.1	0.8	0.4	0.7	0.6	0.5
Doxepin	1.7	1.4	1.1	2.5	2.2	2.1	2.3	2.8	3.4	2.2	3	2.2	3.1	3.6	2.1	3	2.1	2.6	1.8	2.3	2.3	2.5
Imipramine	0.9	0.6	0.3	0.8	0.5	0.6	0.6	0.6	1	0.6	0.8	0.7	0.8	0.6	0.7	0.5	0.6	0.8	0.5	0.7	0.8	0.7
Clomipramine	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.3	0.2
Nortriptyline	2.3	2.2	2.2	2.3	2.1	2.6	2.5	2.4	2.6	2.3	2.6	2.3	2	2.5	1.9	3.3	3	3.3	2	2	2.4	2.4
Phenelzine	0.1	0.04	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.03	0.04	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tranylcypromine	0.1	0	0.01	0.1	0.1	0	0.04	0.01	0.1	0.02	0.02	0.04	0.01	0.01	0.04	0.01	0.03	0.04	0.04	0.1	0.1	0.03
Bupropion	17.3	16.6	13.1	13.9	16.7	13.9	15.5	13.2	16.8	12.7	13.4	15	16.6	16.7	18.5	18.5	16.1	20	16.2	18.7	16.7	16

Section 5: Medication Use by VISN, continued

Number of patients	Visn1	Visn2	Visn3	Visn4	Visn5	Visn6	Visn7	Visn8	Visn9	Visn10	Visn11	Visn12	Visn15	Visn16	Visn17	Visn18	Visn19	Visn20	Visn21	Visn22	Vi 23
	15,261	8,357	11,389	13,786	7,424	13,955	17,387	28,388	14,096	12,800	12,166	11,393	14,167	27,988	13,648	13,329	8,791	15,508	13,814	17,217	14,258

	% Use by Visn																					All
	Visn1	Visn2	Visn3	Visn4	Visn5	Visn6	Visn7	Visn8	Visn9	Visn10	Visn11	Visn12	Visn15	Visn16	Visn17	Visn18	Visn19	Visn20	Visn21	Visn22	Visn23	
Citalopram	20.5	17.8	15	21.1	14.3	22	18.4	22.4	22.3	22.1	14.8	17.6	28.9	23.1	23.2	24	20.7	27.8	16	17.9	20.8	21
Fluoxetine	14.1	11.7	13.1	13.8	10.8	12.8	15.2	16.1	13.1	12.5	14.9	11.7	11.7	16	13.5	13.8	18.3	11.5	13.4	15.2	12.3	13.9
Nefazadone	6	5	4.2	5.5	4.1	5.5	5.3	5.5	4.5	3.8	5.4	5.9	7.5	6	6.2	4.6	5.3	6.8	7.3	5.3	5.2	5.6
Paroxetine	10.8	14.1	16.8	12.9	13	12.9	14.4	15.7	14.8	13.5	14.4	12.5	14.2	11.8	11.9	9.6	13.1	13.5	13.3	14.2	12.7	13.4
Sertraline	19.6	24.1	25.2	25.3	24.2	25.6	28.2	22.2	27.8	23.3	24.8	19.9	23.7	26	26.3	20.6	21.2	17.9	17.3	18	22.5	23.1
Trazodone	21.9	16	20.6	26.6	24.6	27.2	28.6	25.2	26.5	23.5	21.6	21.9	29.6	24.5	34.2	26	25.5	32.6	28.2	22.4	25.7	25.6
Venlafaxine	8.3	9.4	6.1	7.1	6.1	6.8	8.9	8.1	10.5	7.4	6.4	9	9.6	10	10.7	8.7	11.4	11.8	10	8.5	8.7	8.8
Mirtazapine	11	5.6	4.9	7.8	11.3	8.4	10.7	7.6	12	10.5	10.9	12.5	6.2	8.6	7.9	4	9.3	8.9	9.4	10.2	11.4	9