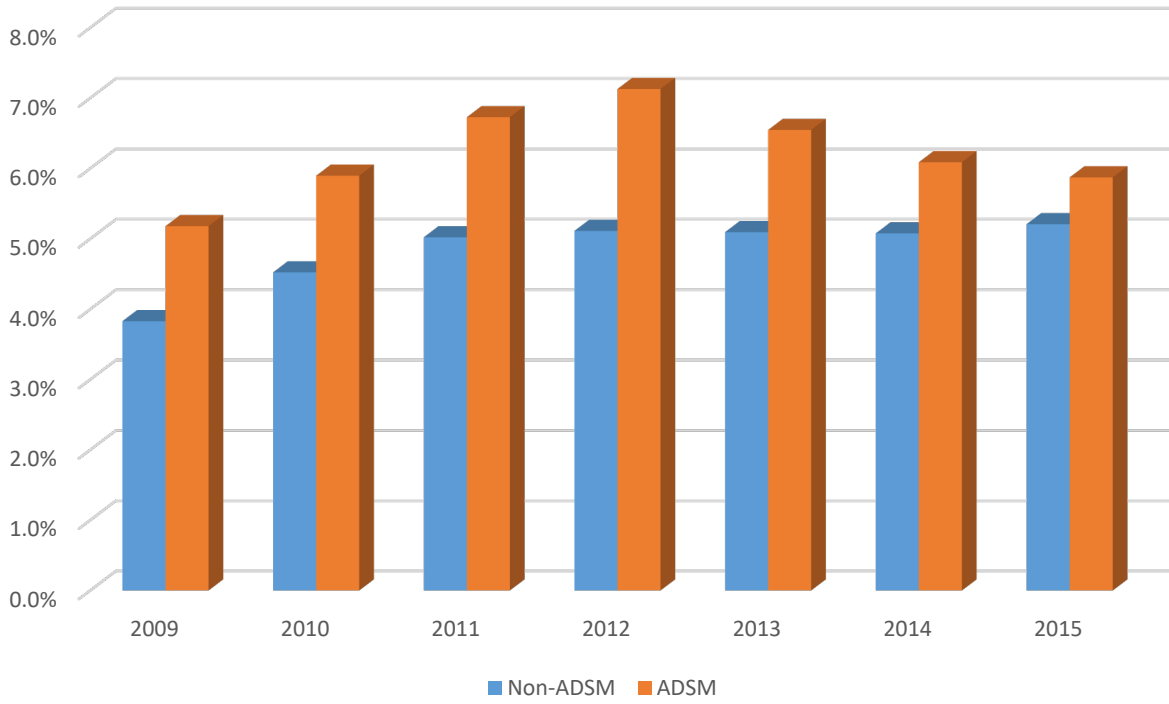


<b>Table S1. Mean number of prescriptions per person</b>							
	<b>ADSM</b>			<b>non-ADSM</b>			
	Number of prescriptions	Number of People	Mean of number Rx per person	Number of prescriptions	Number of People	Mean of number Rx per person	p-value
<b>2009</b>	233,522	109,795	2.13	941,975	329,436	2.86	<0.0001
<b>2010</b>	309,455	124,245	2.49	1,430,511	393,805	3.63	<0.0001
<b>2011</b>	378,124	138,513	2.73	1,754,239	437,072	4.01	<0.0001
<b>2012</b>	415,718	143,492	2.90	1,822,990	444,333	4.10	<0.0001
<b>2013</b>	389,758	128,074	3.04	1,879,309	439,112	4.28	<0.0001
<b>2014</b>	352,151	114,906	3.06	1,874,418	434,209	4.32	<0.0001
<b>2015</b>	325,599	107,039	3.04	1,875,469	434,358	4.32	<0.0001

**Table S2. Characteristics of Treatment Episode by Beneficiary Categories**

	ADSM			Non-ADSM		
	N	%	Duration (mean, sd)	N	%	Duration (mean, sd)
<b>Overall</b>	1,023,237	100%	69.5 (145.3)	3196618	100%	142.8 (281.8)
<b>By episode type</b>						
<i>Acute (&lt;30 days)</i>	310,742	30%	10.9 (6.4)	37,7804	12%	12.1 (7.4)
<i>Intermittent (0-89 days)</i>	518,006	51%	40.1 (16.4)	1,683,596	53%	39.3 (16.7)
<i>Chronic (&gt;=90 days)</i>	194,489	19%	241.3 (270.1)	1135218	36%	339.8 (403.4)
<b>Age group 18-24</b>						
<i>Acute (&lt;30 days)</i>	69754	32%	11.0 (6.5)	29919	22%	10.0 (7.2)
<i>Intermittent (0-89 days)</i>	110359	51%	41.0 (16.6)	74598	56%	39.4 (16.3)
<i>Chronic (&gt;=90 days)</i>	36659	17%	182.8 (159.4)	29261	22%	232.2 (237.9)
<b>Age group 25-34</b>						
<i>Acute (&lt;30 days)</i>	137726	33%	10.7 (6.3)	44366	17%	11.8 (7.1)
<i>Intermittent (0-89 days)</i>	207055	49%	40.3 (16.4)	143897	55%	40.0 (16.8)
<i>Chronic (&gt;=90 days)</i>	77148	18%	228.4 (239.1)	71442	28%	283.6 (317.2)
<b>Age group 35-44</b>						
<i>Acute (&lt;30 days)</i>	76947	27%	11.1 (6.3)	42931	13%	12.2 (7.1)
<i>Intermittent (0-89 days)</i>	145850	52%	39.6 (16.3)	181459	55%	39.5 (16.8)
<i>Chronic (&gt;=90 days)</i>	58342	21%	274.7 (316.5)	103225	32%	333.3 (393.5)
<b>Age group 45-64</b>						
<i>Acute (&lt;30 days)</i>	26289	25%	11.4 (6.4)	133,300	11%	12.0 (7.4)
<i>Intermittent (0-89 days)</i>	54645	53%	39.3 (16.3)	640,963	54%	39.1 (16.8)
<i>Chronic (&gt;=90 days)</i>	22312	22%	294.7 (349.8)	423,066	35%	359.6 (431.3)

**Figure S1. Crude rates in sedative hypnotics in ADSM and non-ADSM 2009-2015**



<b>Table S3. Diagnostic codes for sleep related conditions</b>		
<b>ICD 9 &amp; ICD 10</b>	<b>Description</b>	<b>Category</b>
30741	TRANSIENT DISORDER OF INITIATING OR MAINTAINING SLEEP	Insomnia
30742	PERSISTENT DISORDER OF INITIATING OR MAINTAINING SLEEP	Insomnia
3270	ORGANIC DISORDERS OF INITIATING AND MAINTAINING SLEEP [ORGANIC INSOMNIA]	Insomnia
32700	ORGANIC INSOMNIA, UNSPECIFIED	Insomnia
32701	INSOMNIA DUE TO MEDICAL CONDITION CLASSIFIED ELSEWHERE	Insomnia
32702	INSOMNIA DUE TO MENTAL DISORDER	Insomnia
32709	OTHER ORGANIC INSOMNIA	Insomnia
78051	INSOMNIA WITH SLEEP APNEA, UNSPECIFIED	Insomnia
78052	INSOMNIA, UNSPECIFIED	Insomnia
F5101	PRIMARY INSOMNIA	Insomnia
F5102	ADJUSTMENT INSOMNIA	Insomnia
F5103	PARADOXICAL INSOMNIA	Insomnia
F5104	PSYCHOPHYSIOLOGIC INSOMNIA	Insomnia
F5105	INSOMNIA DUE TO OTHER MENTAL DISORDER	Insomnia
F5109	OTHER INSOMNIA NOT DUE TO A SUBSTANCE OR KNOWN PHYSIOLOGICAL CONDITION	Insomnia
G4701	INSOMNIA DUE TO MEDICAL CONDITION	Insomnia
G4709	OTHER INSOMNIA	Insomnia
3272	ORGANIC SLEEP APNEA	Obstructive sleep apnea
32720	ORGANIC SLEEP APNEA, UNSPECIFIED	Obstructive sleep apnea
32721	PRIMARY CENTRAL SLEEP APNEA	Obstructive sleep apnea
32723	OBSTRUCTIVE SLEEP APNEA (ADULT)(PEDIATRIC)	Obstructive sleep apnea
32727	CENTRAL SLEEP APNEA IN CONDITIONS CLASSIFIED ELSEWHERE	Obstructive sleep apnea
32729	OTHER ORGANIC SLEEP APNEA	Obstructive sleep apnea
78053	HYPERSOMNIA WITH SLEEP APNEA, UNSPECIFIED	Obstructive sleep apnea
78057	UNSPECIFIED SLEEP APNEA	Obstructive sleep apnea

G4730	SLEEP APNEA, UNSPECIFIED	Obstructive sleep apnea
G4731	PRIMARY CENTRAL SLEEP APNEA	Obstructive sleep apnea
G4733	OBSTRUCTIVE SLEEP APNEA (ADULT) (PEDIATRIC)	Obstructive sleep apnea
G4737	CENTRAL SLEEP APNEA IN CONDITIONS CLASSIFIED ELSEWHERE	Obstructive sleep apnea
G4739	OTHER SLEEP APNEA	Obstructive sleep apnea
30745	CIRCADIAN RHYTHM SLEEP DISORDER OF NONORGANIC ORIGIN	Circadian rhythm disorder
3273	CIRCADIAN RHYTHM SLEEP DISORDER	Circadian rhythm disorder
32730	CIRCADIAN RHYTHM SLEEP DISORDER, UNSPECIFIED	Circadian rhythm disorder
32731	CIRCADIAN RHYTHM SLEEP DISORDER, DELAYED SLEEP PHASE TYPE	Circadian rhythm disorder
32732	CIRCADIAN RHYTHM SLEEP DISORDER, ADVANCED SLEEP PHASE TYPE	Circadian rhythm disorder
32733	CIRCADIAN RHYTHM SLEEP DISORDER, IRREGULAR SLEEP-WAKE TYPE	Circadian rhythm disorder
32734	CIRCADIAN RHYTHM SLEEP DISORDER, FREE-RUNNING TYPE	Circadian rhythm disorder
32735	CIRCADIAN RHYTHM SLEEP DISORDER, JET LAG TYPE	Circadian rhythm disorder
32736	CIRCADIAN RHYTHM SLEEP DISORDER, SHIFT WORK TYPE	Circadian rhythm disorder
32737	CIRCADIAN RHYTHM SLEEP DISORDER IN CONDITIONS CLASSIFIED ELSEWHERE	Circadian rhythm disorder
32739	OTHER CIRCADIAN RHYTHM SLEEP DISORDER	Circadian rhythm disorder
78055	DISRUPTION OF 24 HOUR SLEEP WAKE CYCLE, UNSPECIFIED	Circadian rhythm disorder
G4720	CIRCADIAN RHYTHM SLEEP DISORDER, UNSPECIFIED TYPE	Circadian rhythm disorder
G4721	CIRCADIAN RHYTHM SLEEP DISORDER, DELAYED SLEEP PHASE TYPE	Circadian rhythm disorder
G4722	CIRCADIAN RHYTHM SLEEP DISORDER, ADVANCED SLEEP PHASE TYPE	Circadian rhythm disorder
G4723	CIRCADIAN RHYTHM SLEEP DISORDER, IRREGULAR SLEEP WAKE TYPE	Circadian rhythm disorder
G4724	CIRCADIAN RHYTHM SLEEP DISORDER, FREE RUNNING TYPE	Circadian rhythm disorder
G4725	CIRCADIAN RHYTHM SLEEP DISORDER, JET LAG TYPE	Circadian rhythm disorder
G4726	CIRCADIAN RHYTHM SLEEP DISORDER, SHIFT WORK TYPE	Circadian rhythm disorder

G4727	CIRCADIAN RHYTHM SLEEP DISORDER IN CONDITIONS CLASSIFIED ELSEWHERE	Circadian rhythm disorder
G4729	OTHER CIRCADIAN RHYTHM SLEEP DISORDER	Circadian rhythm disorder
29182	ALCOHOL INDUCED SLEEP DISORDERS	Others
29285	DRUG INDUCED SLEEP DISORDERS	Others
3074	SPECIFIC DISORDERS OF SLEEP OF NONORGANIC ORIGIN	Others
30740	NONORGANIC SLEEP DISORDER, UNSPECIFIED	Others
30743	TRANSIENT DISORDER OF INITIATING OR MAINTAINING WAKEFULNESS	Others
30744	PERSISTENT DISORDER OF INITIATING OR MAINTAINING WAKEFULNESS	Others
30746	SLEEP AROUSAL DISORDER	Others
30747	OTHER DYSFUNCTIONS OF SLEEP STAGES OR AROUSAL FROM SLEEP	Others
30748	REPETITIVE INTRUSIONS OF SLEEP	Others
30749	OTHER SPECIFIC DISORDERS OF SLEEP OF NONORGANIC ORIGIN	Others
3271	ORGANIC DISORDER OF EXCESSIVE SOMNOLENCE [ORGANIC HYPERSOMNIA]	Others
32710	ORGANIC HYPERSOMNIA, UNSPECIFIED	Others
32711	IDIOPATHIC HYPERSOMNIA WITH LONG SLEEP TIME	Others
32712	IDIOPATHIC HYPERSOMNIA WITHOUT LONG SLEEP TIME	Others
32713	RECURRENT HYPERSOMNIA	Others
32714	HYPERSOMNIA DUE TO MEDICAL CONDITION CLASSIFIED ELSEWHERE	Others
32715	HYPERSOMNIA DUE TO MENTAL DISORDER	Others
32719	OTHER ORGANIC HYPERSOMNIA	Others
32722	HIGH ALTITUDE PERIODIC BREATHING	Others
32724	IDIOPATHIC SLEEP RELATED NON-OBSTRUCTIVE ALVEOLAR HYPOVENTILATION	Others
32725	CONGENITAL CENTRAL ALVEOLAR HYPOVENTILATION SYNDROME	Others
32726	SLEEP RELATED HYPOVENTILATION/HYPOXEMIA IN CONDITIONS CLASSIFIABLE ELSEWHERE	Others
3274	ORGANIC PARASOMNIA	Others
32740	ORGANIC PARASOMNIA, UNSPECIFIED	Others

32741	CONFUSIONAL AROUSALS	Others
32742	REM SLEEP BEHAVIOR DISORDER	Others
32743	RECURRENT ISOLATED SLEEP PARALYSIS	Others
32744	PARASOMNIA IN CONDITIONS CLASSIFIED ELSEWHERE	Others
32749	OTHER ORGANIC PARASOMNIA	Others
3275	ORGANIC SLEEP RELATED MOVEMENT DISORDERS	Others
32751	PERIODIC LIMB MOVEMENT DISORDER	Others
32752	SLEEP RELATED LEG CRAMPS	Others
32753	SLEEP RELATED BRUXISM	Others
32759	OTHER ORGANIC SLEEP RELATED MOVEMENT DISORDERS	Others
3278	OTHER ORGANIC SLEEP DISORDERS	Others
7805	SLEEP DISTURBANCES	Others
78050	SLEEP DISTURBANCE, UNSPECIFIED	Others
78054	HYPERSOMNIA, UNSPECIFIED	Others
78056	DYSFUNCTIONS ASSOCIATED WITH SLEEP STAGES OR AROUSAL FROM SLEEP	Others
78058	SLEEP RELATED MOVEMENT DISORDER, UNSPECIFIED	Others
78059	OTHER SLEEP DISTURBANCES	Others
F10182	ALCOHOL ABUSE WITH ALCOHOL-INDUCED SLEEP DISORDER	Others
F10282	ALCOHOL DEPENDENCE WITH ALCOHOL-INDUCED SLEEP DISORDER	Others
F10982	ALCOHOL USE, UNSPECIFIED WITH ALCOHOL-INDUCED SLEEP DISORDER	Others
F11182	OPIOID ABUSE WITH OPIOID-INDUCED SLEEP DISORDER	Others
F11282	OPIOID DEPENDENCE WITH OPIOID-INDUCED SLEEP DISORDER	Others
F11982	OPIOID USE, UNSPECIFIED WITH OPIOID-INDUCED SLEEP DISORDER	Others
F13182	SEDATIVE, HYPNOTIC OR ANXIOLYTIC ABUSE WITH SEDATIVE, HYPNOTIC OR ANXIOLYTIC-INDUCED SLEEP DISORDER	Others
F13282	SEDATIVE, HYPNOTIC OR ANXIOLYTIC DEPENDENCE WITH SEDATIVE, HYPNOTIC OR ANXIOLYTIC-INDUCED SLEEP DISORDER	Others
F13982	SEDATIVE, HYPNOTIC OR ANXIOLYTIC USE, UNSPECIFIED WITH SEDATIVE,	Others

	HYPNOTIC OR ANXIOLYTIC-INDUCED SLEEP DISORDER	
F14182	COCAINE ABUSE WITH COCAINE-INDUCED SLEEP DISORDER	Others
F14282	COCAINE DEPENDENCE WITH COCAINE-INDUCED SLEEP DISORDER	Others
F14982	COCAINE USE, UNSPECIFIED WITH COCAINE-INDUCED SLEEP DISORDER	Others
F15182	OTHER STIMULANT ABUSE WITH STIMULANT-INDUCED SLEEP DISORDER	Others
F15282	OTHER STIMULANT DEPENDENCE WITH STIMULANT-INDUCED SLEEP DISORDER	Others
F15982	OTHER STIMULANT USE, UNSPECIFIED WITH STIMULANT-INDUCED SLEEP DISORDER	Others
F19182	OTHER PSYCHOACTIVE SUBSTANCE ABUSE WITH PSYCHOACTIVE SUBSTANCE-INDUCED SLEEP DISORDER	Others
F19282	OTHER PSYCHOACTIVE SUBSTANCE DEPENDENCE WITH PSYCHOACTIVE SUBSTANCE-INDUCED SLEEP DISORDER	Others
F19982	OTHER PSYCHOACTIVE SUBSTANCE USE, UNSPECIFIED WITH PSYCHOACTIVE SUBSTANCE-INDUCED SLEEP DISORDER	Others
F5111	PRIMARY HYPERSOMNIA	Others
F5112	INSUFFICIENT SLEEP SYNDROME	Others
F5113	HYPERSOMNIA DUE TO OTHER MENTAL DISORDER	Others
F5119	OTHER HYPERSOMNIA NOT DUE TO A SUBSTANCE OR KNOWN PHYSIOLOGICAL CONDITION	Others
F513	SLEEPWALKING [SOMNAMBULISM]	Others
F518	OTHER SLEEP DISORDERS NOT DUE TO A SUBSTANCE OR KNOWN PHYSIOLOGICAL CONDITION	Others
F519	SLEEP DISORDER NOT DUE TO A SUBSTANCE OR KNOWN PHYSIOLOGICAL CONDITION, UNSPECIFIED	Others
G4710	HYPERSOMNIA, UNSPECIFIED	Others
G4711	IDIOPATHIC HYPERSOMNIA WITH LONG SLEEP TIME	Others



G4712	IDIOPATHIC HYPERSOMNIA WITHOUT LONG SLEEP TIME	Others
G4713	RECURRENT HYPERSOMNIA	Others
G4714	HYPERSOMNIA DUE TO MEDICAL CONDITION	Others
G4719	OTHER HYPERSOMNIA	Others
G4732	HIGH ALTITUDE PERIODIC BREATHING	Others
G4734	IDIOPATHIC SLEEP RELATED NONOBSTRUCTIVE ALVEOLAR HYPOVENTILATION	Others
G4735	CONGENITAL CENTRAL ALVEOLAR HYPOVENTILATION SYNDROME	Others
G4736	SLEEP RELATED HYPOVENTILATION IN CONDITIONS CLASSIFIED ELSEWHERE	Others
G4750	PARASOMNIA, UNSPECIFIED	Others
G4751	CONFUSIONAL AROUSALS	Others
G4752	REM SLEEP BEHAVIOR DISORDER	Others
G4753	RECURRENT ISOLATED SLEEP PARALYSIS	Others
G4754	PARASOMNIA IN CONDITIONS CLASSIFIED ELSEWHERE	Others
G4759	OTHER PARASOMNIA	Others
G4761	PERIODIC LIMB MOVEMENT DISORDER	Others
G4762	SLEEP RELATED LEG CRAMPS	Others
G4763	SLEEP RELATED BRUXISM	Others
G4769	OTHER SLEEP RELATED MOVEMENT DISORDERS	Others