



# **Analysis of Medicare Part D Enrollees Who Use Antidepressant or Antipsychotic Medications**

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Antidepressants and antipsychotics are two of the six protected classes under the Medicare prescription drug benefit (Part D). Part D plan sponsors are required to include substantially all of the medications in these classes on their formularies. This summary presents a descriptive analysis of the use of antidepressant (AD) and antipsychotic (AP) medications among Medicare Part D enrollees in calendar year (CY) 2012 in a Question (Q) and Answer (A) format.

The proportion of the Part D enrolled population that used either an AD or AP medication during 2012 is presented (Q1). For these two user populations, a series of descriptive utilization statistics are provided (Q2, Q3), and then broken down by sex and four age groups (Q4), and cross-use (Q5).

Finally, comparisons between AD and AP users by the number of unique medications (Q6) and therapeutic classes of medications used are provided (Q7).

## Methodology

### Study Population

The study population was comprised of Medicare Part D enrollees who used AP or AD medications, and is defined as beneficiaries who had one or more prescription drug event (PDE) claim(s) for an AD or AP medication in the 2012 Standard Analytic File (SAF) accessed February 10, 2014. Part D enrollees in standalone Prescription Drug Plans (PDPs) and Medicare Advantage Prescription Drug Plans (MA-PDs) were included in this analysis.

### Antidepressant and Antipsychotic Medications, Unique Drugs and Drug Names, Therapeutic Classifications, and Fills

AD and AP medications were identified from an internally developed list of National Drug Codes (NDCs) that were active during 2012.

Unique drugs were defined at the Medi-Span Generic Product Identifier (GPI-10) level which identifies a drug by its generic entity name (e.g., nortriptyline hydrochloride or megestrol acetate instead of Pamelor® or Megace®). Medications with different dosages or strengths retain a common name under this scheme.

Therapeutic classes were defined using the GPI-2 therapeutic classification associated with an NDC.

One fill was defined as a single PDE claim, and fills were not adjusted for days supply. The proportions of fills by therapeutic class were calculated as the count of fills per therapeutic class as the numerator divided by the denominator of total number of fills.

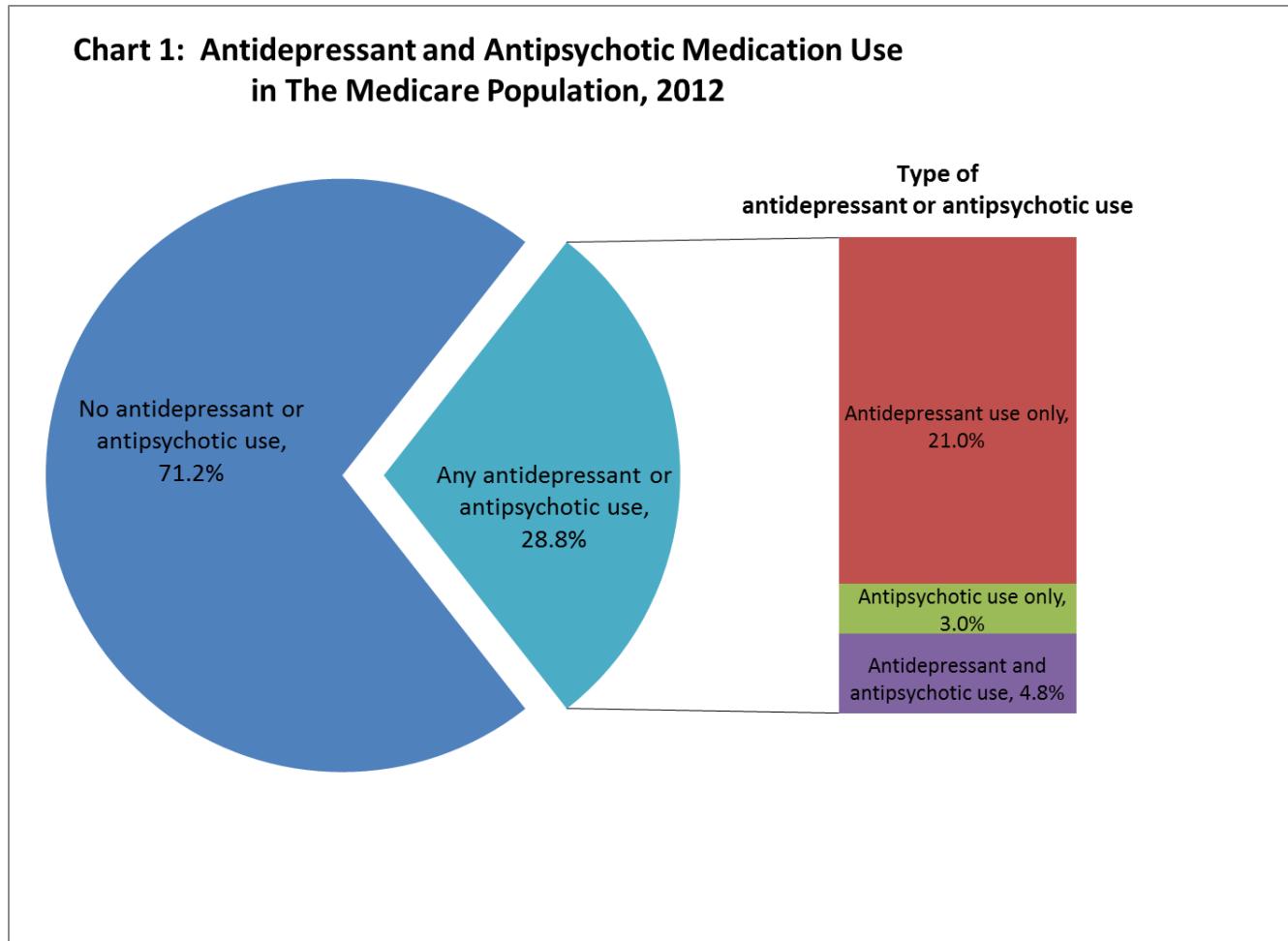
When possible, comparisons were made to the general Part D population.

### Presence of Psychosis

The presence of a diagnosis of psychosis was identified during 2012 by the presence of RxHCC category 58 from the Part D risk adjustment model, which is based on ICD-9 diagnosis code of 295.xx (i.e., schizophrenic disorders).

## Q1: What proportion of the Part D population used antidepressant or antipsychotics?

- A: In 2012, 71.2% of Part D enrollees had no AD or AP use, and 28.8% (or 9.7 million (M) enrollees) used at least one of these two types of drugs. (Chart 1)



Additional breakouts for the type of AD and/or AP use are discussed next.

**Q2: What proportion of Medicare Part D enrollees used either an antidepressant or antipsychotic medication? What proportion of enrollees had a diagnosis of psychosis and what was the prevalence of their antidepressant or antipsychotic medication use?**

A: Overall, 28.8% of Part D enrollees used either an AP or AD medication in 2012. This was split between 25.8% of Part D enrollees who had any AD use and 7.9% who had any AP use. A smaller proportion of Part D enrollees (4.8%) used both an AD and an AP. (Table 1)<sup>1</sup>

- A small proportion of Part D enrollees had a diagnosis of psychosis (3.7% or 1,241,455). Approximately 68% of these enrollees filled a prescription for an AP during 2012 (or [342,183+498,999]/1,241,455). This was comprised of 27.6% of enrollees with a psychosis diagnosis who used only an AP and 40.2% who used both an AP and an AD.
- Approximately 31.7% of all AP users had a claim with diagnosis of psychosis in 2012 (or [342,183+498,999]/2,655,166).

**Table 1: Prevalence of AD and AP use Among Part D enrollees, 2012**

	N	As % of Part D enrollees	As % of subpopulation
<b>Part D population</b>	<b>33,795,041</b>	<b>100%</b>	-
No antidepressant or antipsychotic use	24,055,948	71.2%	-
Any Antidepressant or Antipsychotic use	9,739,093	28.8%	-
<b>Subpopulation: AD/AP Users</b>			
Any Antidepressant use	8,721,483	25.8%	100.0%
Antidepressant use only	7,083,927	21.0%	81.2%
Any Antipsychotic use	2,655,166	7.9%	100.0%
Antipsychotic use only	1,017,610	3.0%	38.3%
Antidepressant and Antipsychotic use	1,637,556	4.8%	100.0%
<b>Subpopulation: Any diagnosis of psychosis</b>			
Only AD use	184,605	0.5%	14.9%
Only AP use	342,183	1.0%	27.6%
AP and AD use	498,999	1.5%	40.2%
No new AP/AD fills during 2012*	215,668	0.6%	17.4%

\* Note: Does not include fills in 2011 that extended into 2012

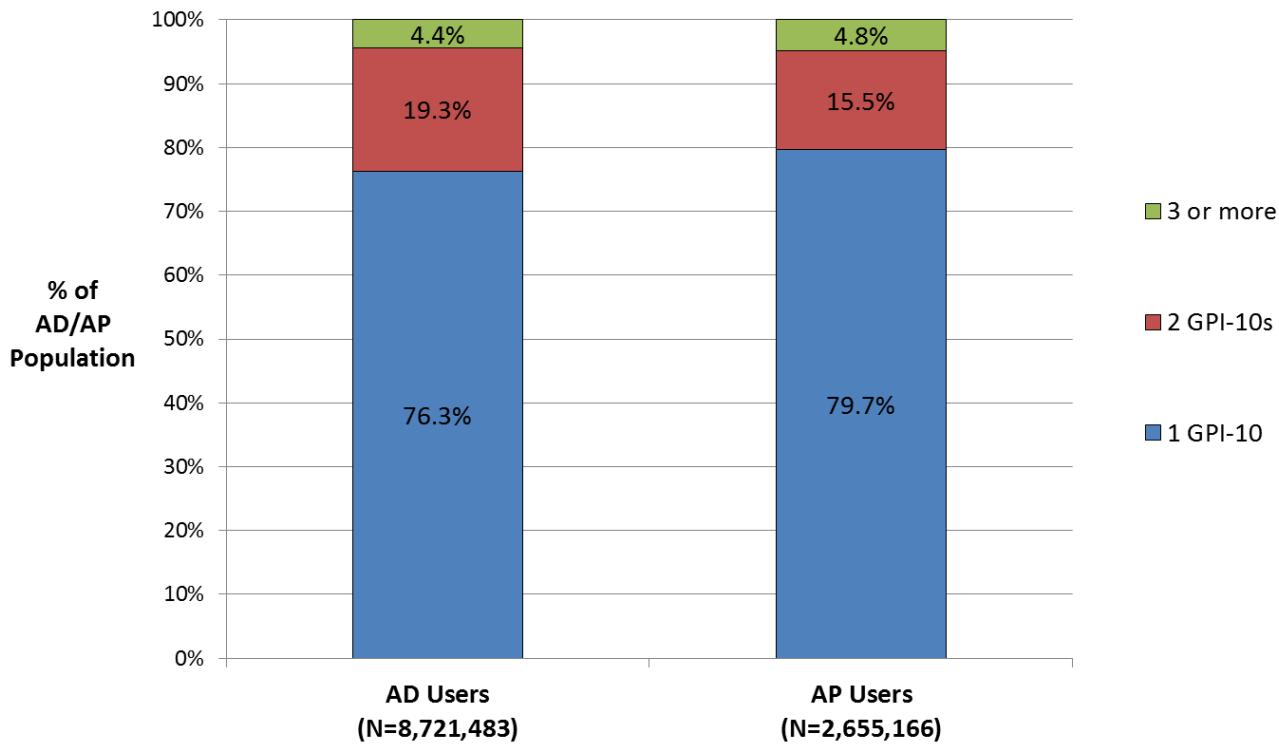
<sup>1</sup> Antipsychotics may also have approved indications for other conditions (such as major depression or bipolar disease) without psychoses.

### Q3: How many unique antidepressant or antipsychotic medications were used by AD and AP users?

A: Over three-fourths of AD and AP users used only one unique drug per class. (Chart 2)

- Among AD users (which represented 25.8% of the Part D population or 8.7 M enrollees), 76.3% used one unique AD drug in 2012, 19.3% used two unique drugs, and 4.4% used three or more.
- Similarly, among AP users (which represented 7.9% of the Part D population or 2.7 M enrollees), about 79.7% used only one unique AP drug, 15.5% used two, and 4.8% used three or more.

**Chart 2: Number of Unique AD and AP medications (GPI-10) Used by AD and AP Users, 2012.**



## **Q4: Did the use of antidepressant or antipsychotic medications differ by sex? What was the breakdown by age? Are age distributions similar for men and women?**

A: Users of AD medications were disproportionately more female compared to the general Part D population (68.9% vs 58.2% female). Users of AP medications were proportionately similar by sex (59.2% vs 58.2% female). (Table 2)

- A higher proportion of Part D enrollees who only used AP medications were male compared to the Part D population (47.6% vs 41.8% male).
- A higher proportion of Part D enrollees who used both AD and AP medications were female than the Part D population (63.4% vs 58.2% female).

**Table 2: Breakout of Antidepressant and Antipsychotic Use by Sex , 2012**

	N	As % of Part D	Sex	
			Male	Female
<b>Medicare Population<sup>1</sup></b>	<b>50,829,000</b>	<b>-</b>	<b>45.2%</b>	<b>54.8%</b>
<b>Part D Population</b>	<b>33,795,041</b>	<b>100.0%</b>	<b>41.8%</b>	<b>58.2%</b>
Any Part D Drug use	31,282,441	92.6%	40.8%	59.2%
No antidepressant or antipsychotic use	24,055,948	71.2%	45.5%	54.5%
Any Antidepressant or Antipsychotic use	9,739,093	28.8%	41.9%	58.1%
<b>AD/AP Users</b>				
Any Antidepressant use <sup>2</sup>	8,721,481	25.8%	31.1%	68.9%
Antidepressant use only	7,083,926	21.0%	29.8%	70.2%
Any Antipsychotic use <sup>2</sup>	2,655,164	7.9%	40.8%	59.2%
Antipsychotic use only	1,017,609	3.0%	47.6%	52.4%
Antidepressant and antipsychotic use <sup>2</sup>	1,637,555	4.8%	36.6%	63.4%

<sup>1</sup> source: [http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMS-Statistics-Reference-Booklet/Downloads/CMS\\_Stats\\_2013\\_final.pdf#tablei4](http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/CMS-Statistics-Reference-Booklet/Downloads/CMS_Stats_2013_final.pdf#tablei4)

<sup>2</sup> Numbers differ slightly from those in Table 1 due to 5 beneficiaries having missing genders in the enrollment table

Compared to the Part D population, a higher proportion of AP and AD users were less than 65 years of age. (Table 3)

- Among AD users, 30.1% were under 65.
- A higher proportion of AP users were under 65 (49.5%).
- Whereas, for the Part D population, 19.2% of enrollees were under 65.

This trend was also present when stratified by age and sex:

- For AD users, 38.1% of male AD users and 26.5% of female AD users were under 65, compared to 22.9% male and 16.6% female under 65 in the Part D population.
- For AP users, use by those under 65 was more pronounced, and 59.8% of male AP users and 42.5% of female AP users were under 65.

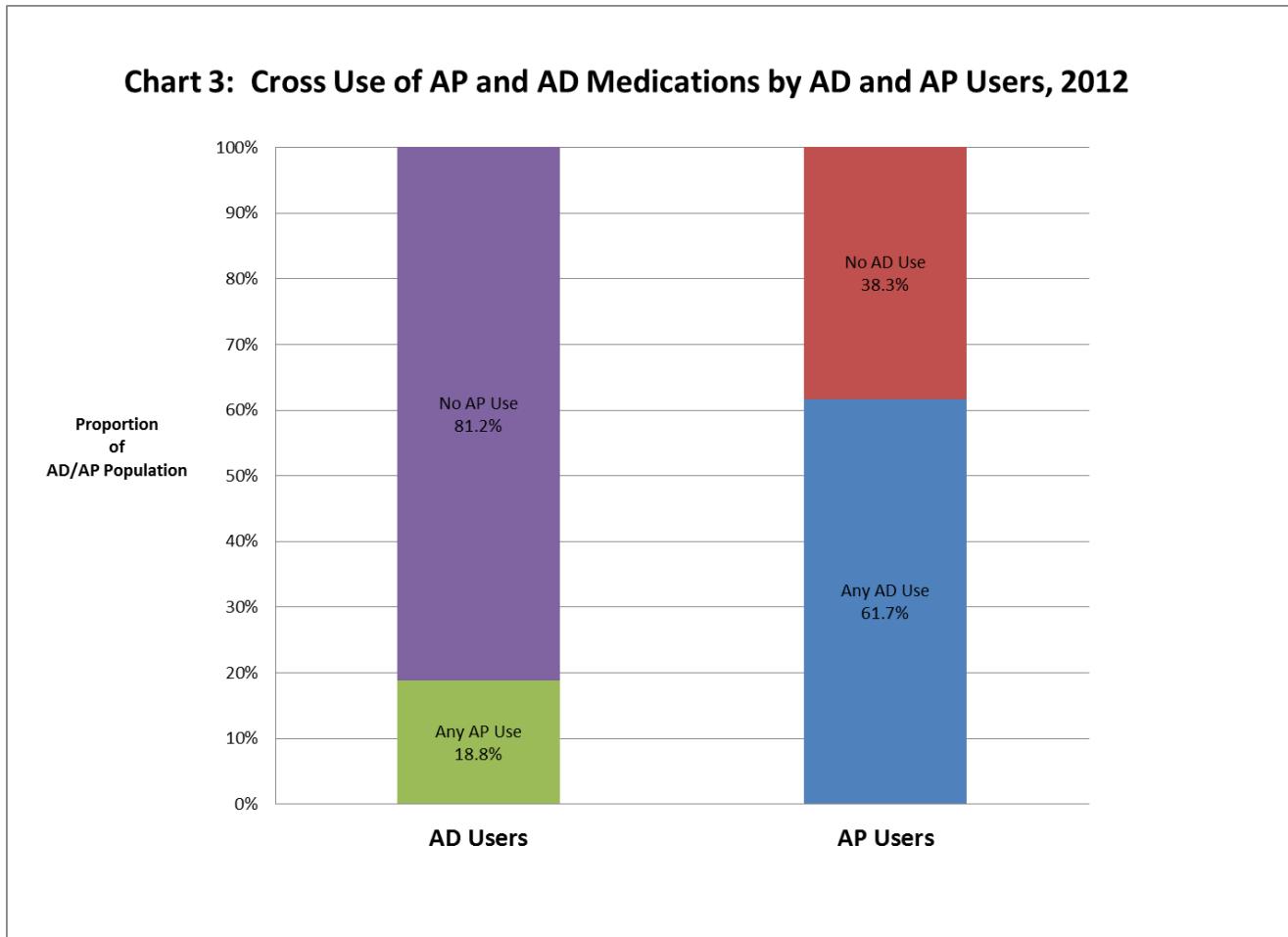
Across all age categories, the proportion of AD and AP use was lowest for those 85 years and older (13.5% of AD users and 14.1% of AP users were within that age group). This was comparable to the overall Part D population and consistent regardless of sex.

**Table 3: Age Distributions of Antidepressant and Antipsychotic Drug Users, 2012**

Study Sample	% of Part D populatio n	Age				Male				Female			
						Age				Age			
		< 65	65-74	75-84	85+	< 65	65-74	75-84	85+	< 65	65-74	75-84	85+
Part D population	100.0%	19.2%	42.3%	25.9%	12.6%	22.9%	43.6%	24.6%	8.8%	16.6%	41.3%	26.9%	15.3%
Any Drug use	92.6%	18.9%	41.6%	26.6%	12.9%	22.3%	43.2%	25.4%	9.1%	16.5%	40.6%	27.3%	15.6%
No antidepressant or antipsychotic use	71.2%	14.1%	46.1%	27.6%	12.2%	17.6%	47.6%	26.1%	8.7%	11.2%	44.9%	28.8%	15.0%
Any Antidepressant or Antipsychotic use	28.8%	31.9%	32.7%	21.8%	13.6%	41.1%	30.2%	19.4%	9.2%	27.3%	34.0%	22.9%	15.8%
<b>Antidepressant or Antipsychotic users</b>													
Any Antidepressant use	25.8%	30.1%	34.1%	22.3%	13.5%	38.1%	32.1%	20.3%	9.4%	26.5%	34.9%	23.1%	15.4%
Antidepressant use only	21.0%	25.2%	37.5%	23.8%	13.5%	31.5%	36.2%	22.4%	9.8%	22.5%	38.1%	24.4%	15.0%
Any Antipsychotic use	7.9%	49.5%	19.9%	16.4%	14.1%	59.8%	18.4%	13.7%	8.0%	42.5%	21.0%	18.3%	18.2%
Antipsychotic use only	3.0%	46.6%	21.5%	17.6%	14.4%	58.0%	19.5%	14.4%	8.1%	36.2%	23.3%	20.4%	20.1%
Both Antidepressant and antipsychotic use	4.8%	31.9%	32.7%	21.8%	13.6%	41.1%	30.2%	19.4%	9.2%	27.3%	34.0%	22.9%	15.8%

## Q5: Are antipsychotics used by antidepressant users? And conversely, are antidepressants used by antipsychotic users?

A: A high proportion of AD users did not use an AP medication (81.2%). However, a majority of AP users also used an AD medication, and only 38.3% of AP users did not use an AD. (Chart 3)



## Q6: How many unique medications were used by antidepressant or antipsychotic users overall? How did this compare to the Part D population?

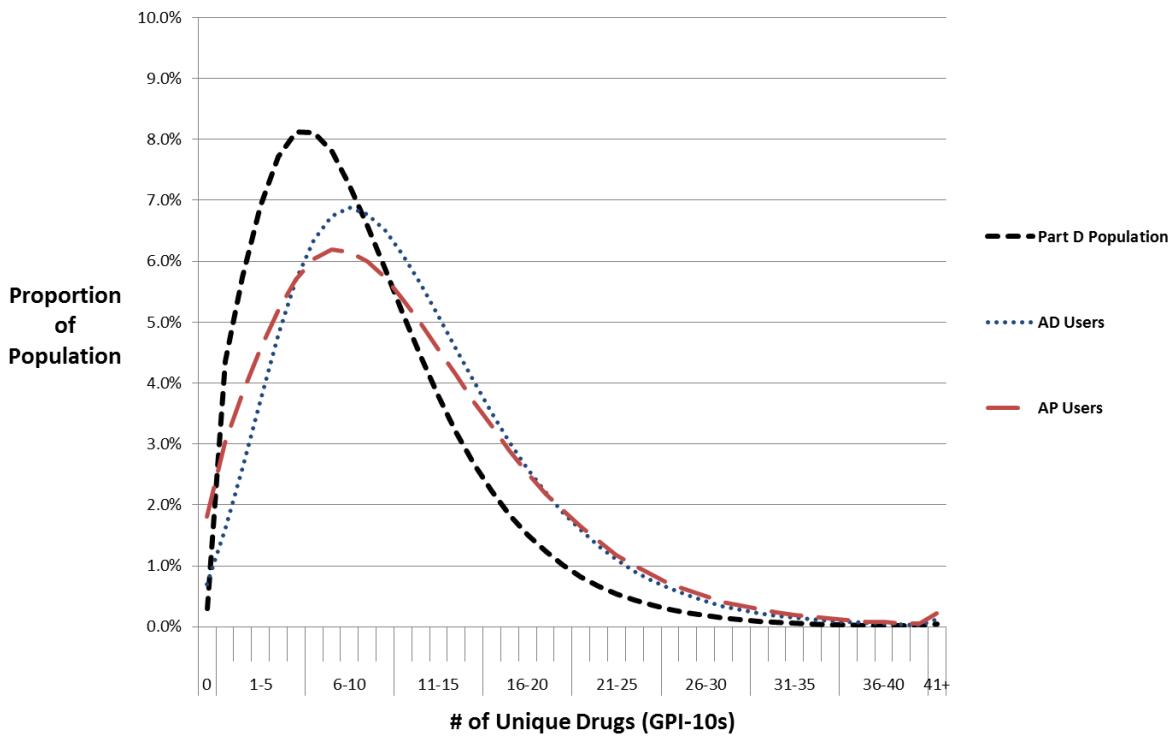
A: Chart 4 shows the distribution of the number of unique drugs used by each population (measured at the GPI-10 level). The number of unique drugs used by both the Part D population and AD and AP users was wide and ranged from 1 to over 40 medications.

Each population exhibited a distribution which was skewed to the right. A distribution that is skewed to the right means that the population used a high number of unique drugs.

On average, AD and AP users utilized more unique drugs overall than the Part D population. As you can see, the distributions for the AD and AP users are slightly more skewed to the right (tapers after 20 drugs) than the general Part D population (tapers after 15 drugs).

Also, in reviewing the peak (or mode), a higher proportion of the Part D population appeared to use about 5 unique drugs, and AD and AP users used about 8 to 9 unique drugs.

**Chart 4: Distribution of Number of Unique Drugs (GPI-10) Used by AD, AP, and Part D Populations, 2012.**



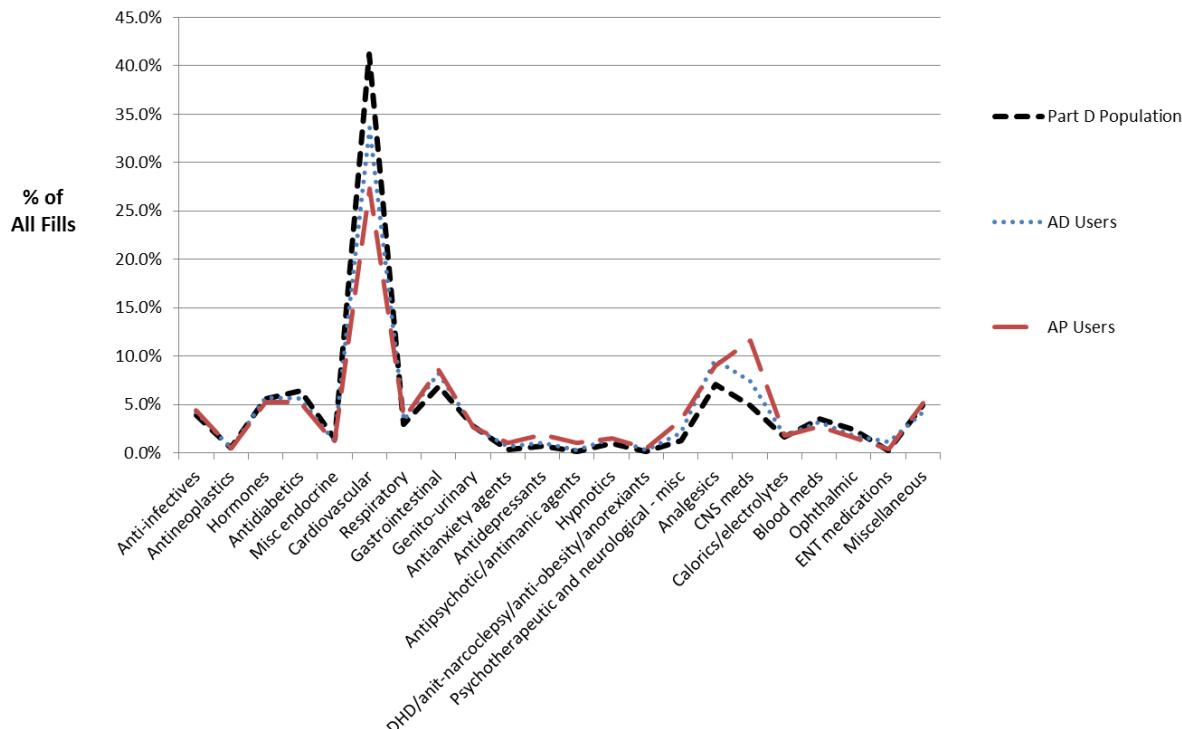
## Q7: What other classes of medications were used by antidepressant or antipsychotic users?

A: When PDE claims were aggregated by the therapeutic classification (measured by GPI-2) associated with the AD or AP NDC, the resulting profiles of drug use across all drug classifications were very similar between AD users, AP users, and the general Part D population. (Chart 5)

While similar profiles exist overall for the 3 study populations, there were slight differences in the proportion of fills among three therapeutic groups: cardiovasculars, analgesics, and central nervous system (CNS) medications. Specifically,

- There was a slightly higher proportion of fills for cardiovascular medications for the Part D population.
- There were slightly higher proportions of fills for analgesics and CNS medications<sup>2</sup> for AD and AP users.
- There was a higher proportion of fills for CNS medications for AP users compared to AD users.

**Chart 5: Proportion of all Fills by Therapeutic Class (GPI-2) for AD and AP Users, and Entire Part D Population, 2012.**



<sup>2</sup> “CNS medications” under this therapeutic classification system is comprised of Anticonvulsants, Musculoskeletal Therapy Agents, Antiparkinson Agents, and Neuromuscular and Antimyasthenic Agents.

## Conclusions

The prevalence of antidepressant use in the Part D enrolled Medicare population was moderate. Users of antidepressants were more likely to be women than men which was disproportionate to the general Part D population.

Overall, the highest proportion of antidepressant use by age category was found in those between 65 and 74 years of age followed by those under 65. Use of antidepressants was higher in men under 65 than women of the same age.

In contrast to antidepressant use, the prevalence of any antipsychotic use in the Part D enrolled Medicare population was low. Users of antipsychotics were also more likely to be women than men, and the overall proportion of women and men using antipsychotics was similar to the Part D enrolled population, and identical to the proportion of users of Part D drugs. However, a higher proportion of Part D enrollees who only used antipsychotic medications were male, and almost half of the users of antipsychotic medications were under 65.

The majority of antidepressant and antipsychotic medication users used only one medication from these classes. Users of antidepressants and antipsychotics used more unique medications than other Part D enrollees, but the aggregation of fills across therapeutic categories was very similar to that of other Part D enrollees. This suggests that while fills within a therapeutic class were similar to the Part D population, there was use of more unique drugs within a class. In the case of cardiovasculars, analgesics, and central nervous system (CNS) medications, antidepressant and antipsychotic medication users had more fills.

Questions: If you have questions related to this analysis, please email the [PartDPolicy@cms.hhs.gov](mailto:PartDPolicy@cms.hhs.gov) and include “CMS.gov Part D Analysis Question” in the subject line and reference the title and date of the paper in the body of the email.

## Limitations

This analysis is claims-based and, as a result, there are several points to be kept in mind. Identification of antidepressant and antipsychotic users is based on claims alone, and there is no discrimination made between beneficiaries who have prolonged drug use and those with one-time (or episodic) use. The reported numbers accordingly reflect a point estimate of any use of an antidepressant or antipsychotic medication and thus represent the upper bound of the true prevalence of use.

Similarly, to the extent that these medications are disproportionately used in distinct sub-populations within the broader Medicare population, demographic characteristics such as sex and age can be influenced. This analysis did not stratify by any other underlying sub-populations (e.g., those in long-term care facilities) other than by sex and age and are instead presented in aggregate.