



State of Indiana Office of Medicaid Policy and Planning

Traditional Medicaid Program Analysis Prepared by:



Cost Savings Report on Mental Health Quality Advisory Committee Pharmacy Edits

Executive Summary

Request: A report was requested for the Indiana Medicaid DUR Board and the Indiana Mental Health Quality Advisory Committee. Information in the report identifies the expenditure impact of MHQAC polypharmacy and utilization edits that were implemented for the traditional Medicaid (fee-for-service) program in January and June 2007 respectively.

Please NOTE: *This report does not evaluate any health outcomes such as whether the edits changed the cost of hospitalization/institutional stays, ER visits, or physician office visits. In addition, the report does not incorporate costs related to claims processing system modifications or additional costs pertaining to prior authorization administration.*

Overview:

On January 1, 2007, the Category 1 *Medical Necessity Quality Edits*, often referred to as polypharmacy edits, were implemented. The purpose of these edits was to prevent drug regimens that were considered to represent inappropriate prescribing situations.

The Medical Necessity Quality Edits applied to the following clinical situations:

1. Patient receiving two or more tricyclic antidepressant medications
2. Patient receiving two or more typical antipsychotic medications
3. Patient receiving three or more atypical antipsychotic medications
4. Patient receiving three or more of any antipsychotic medications

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5. Patient receiving three or more benzodiazepine medications
6. Patient receiving three or more any antidepressant medications, excluding trazodone.

On June 19, 2007, utilization edits were implemented that addressed opportunities to optimize dosing. The June utilization edits set a limit on the quantity of medication allowed per day.

The polypharmacy and utilization edits were implemented consistently in both the traditional and managed care Medicaid pharmacy programs. Specific prior authorization criteria were developed to allow for overrides in specific situations that warranted the prescribing situation.

Impact on Program Expenditures

To analyze the financial impact of the polypharmacy and utilization edits, paid claims from 2006 and 2007 were analyzed and trended over time. Paid claims from 2006 were compared with paid claims in 2007 through regression analysis. Not all changes in utilization or cost over time will be attributable to the edits because there are normal variances, pricing and program changes that occur in trending over time. However, we can plot the cost trends by edit, by therapeutic class, and then by the specific medications involved in the edit to simulate how the edits are defined. Then through regression analyses, partition out what portion of the trends may be attributable to the edits.

Analysis focused on trends recorded in the cost-per-utilizer-per-month (\$PUPM) and cost per-member-per-month (\$PMPM) for mental health medications by therapeutic classes involved in the edits. Regression analyses, to estimate any savings associated with each edit, are analyzed by using the PUPM trends.

For the purpose of this report, ACS was directed to focus the analysis on certain specific mental health drug classes that were involved in the polypharmacy or utilization edits, including atypical antipsychotics, typical antipsychotics, benzodiazepines (anti-anxiety drugs), sedative-hypnotics, antidepressants and agents used to treat ADHD.

Impact of the Polypharmacy Edits

Total drug expenditures in the traditional Medicaid program for the following mental health drugs: antidepressants, antipsychotics, anti-anxiety, sedative-hypnotics, and ADHD were approximately \$169 million (2006 and 2007 combined). Savings associated with implementation of the polypharmacy edits in January 2007 are presented corresponding to the edits and are discussed in the following order:

- Antidepressant medications

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- Typical Antipsychotic medications
- Atypical Antipsychotic medications
- Anti-Anxiety medications
- Sedative-Hypnotic medications
- ADHD medications

Antidepressant Medications

There were no savings associated with the January-07 polypharmacy edit for antidepressant medications. In fact, costs to cover antidepressants continued to increase by an estimated \$0.58 PUPM or \$58,000 from January through May 2007.

Typical Antipsychotic Medications

Savings generated from the polypharmacy edit of two or more typical antipsychotic medications was estimated to be \$1,728.64 for January through April 2007.

Atypical Antipsychotic Medications

Among all of the mental health drugs, atypical antipsychotics are the only class where all drugs in the class fall into the top ten of drugs ranked by amount paid from 2006 throughout 2007. The total amount paid for atypical antipsychotics during these two years was approximately \$110,504,910. After the implementation of the polypharmacy edit in January 2007, the expenditures actually increased by an estimated \$5.61 PUPM or \$400,000 from January through May 2007.

Anti-Anxiety Medications (Benzodiazepines)

The estimated savings realized after implementation of the polypharmacy edit involving 3 or more benzodiazepines was \$5,988 from January through May 2007 and an additional estimated savings of \$19,016 from June through December 2007 for a total estimated savings of \$25,005 for the 2007 year.

Sedative-Hypnotic Medications

There were no January-07 polypharmacy edits for sedative-hypnotic medications. Costs continued to increase at a rate of \$2.28 PUPM from January 2007 through May 2007. The utilization edits were implemented for sedative-hypnotics medications in June 2007.

ADHD Medications

There were no January-07 polypharmacy edits for ADHD medications. Costs continued to increase at a rate of \$0.02 PUPM from January 2007 through May 2007. The utilization edits were implemented for ADHD medications in June 2007.

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Impact of the Utilization Edits

Savings associated with the June 2007 implementation of the utilization edits for the traditional Medicaid population are presented according to the information below.

Antidepressant Medications

June 2007 savings from the implementation of utilization edits for antidepressant medications were estimated to be \$14.20 PUPM or \$1,970,973 from June 2007 through December 2007. ACS is continuing to evaluate this savings figure to analyze additional pricing changes for this class.

Regression analyses were used to partition out how much savings in the antidepressant class may be due to addition of a state MAC or SMAC on the generic sertraline after the brand Zoloft lost exclusivity of its patent. A SMAC was implemented in July, and then adjusted in October 2007 creating additional savings. The SMAC placed upon sertraline gave an estimated \$305,142.20 additional savings from July 2007 through December 2007.

Typical Antipsychotic Medications

Savings generated from the June 2007 utilization edits for typical antipsychotic medications were estimated to be \$0.63 PUPM or \$2,634 from June 2007 through December 2007.

Atypical Antipsychotic Medications

Savings generated from the June 2007 utilization edits for atypical antipsychotic medications were estimated to be \$27.99 PUPM or \$2,889,863 from June 2007 through December 2007.

Anti-Anxiety Medications (Benzodiazepines)

Savings generated from the June 2007 utilization edits for anti-anxiety medications were estimated to be \$1.06 PUPM or a total savings of \$73,758 from June 2007 through December 2007.

Sedative-Hypnotic Medications

As stated before, there were no January-07 polypharmacy edits for sedative-hypnotic medications. Costs continued to increase at a rate of \$2.28 PUPM from January 2007 through May 2007. The utilization edits were implemented for sedative-hypnotics in June 2007.

Regression analyses were used to partition out how much savings in the sedative-hypnotics class may be due to the utilization edit alone and how much may be due to addition of a state MAC or SMAC on the generic zolpidem after the brand Ambien lost patent exclusivity. Savings generated from the June 2007 utilization edits alone for sedative-hypnotic medications were estimated to be \$632,972. A

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SMAC placed upon zolpidem resulted in additional estimated savings of \$552,686 from July 2007 through December 2007.

ADHD Medications

There were no January-07 polypharmacy edits for ADHD medications. Costs continued to increase at a rate of \$0.02 PUPM from January 2007 through May 2007. The utilization edits were implemented for ADHD medications in June 2007. Savings generated from the June 2007 utilization edits for ADHD medications were estimated to be \$8.53 PUPM or a total savings of \$437,411 from June 2007 through December 2007.

Supporting Information and Trending Data

Polypharmacy edits implemented on January 1, 2007

The MHQAC edits required prior authorization for patients taking two or more tricyclic antidepressants, two or more typical antipsychotic medications, three or more atypical antipsychotic medications, three or more any antipsychotic medications, three or more benzodiazepine medications and three or more any antidepressant medications (excluding trazodone).

The total amount spent from January 2007 through June 2007 on these classes (typical antipsychotic medications, atypical antipsychotic medications, tricyclic antidepressants, other antidepressants medications, and benzodiazepines) was approximately \$68 million for the traditional Medicaid program. This report will further evaluate each edit to determine the impact of the edits upon amount paid PUPM and PMPM.

Note: PMPM calculation includes traditional dual and non-dual population.

Tricyclic Antidepressant Medications:

In July 2006, the PUPM amount for tricyclic antidepressants was less than \$9.00 and remained steady until the end of the year. After the implementation of the polypharmacy edits, the PUPM amount gradually increased through March 2007 to greater than \$10.00 PUPM. The implementation of the January 2007 polypharmacy quality edit did not result in any savings for the tricyclic antidepressants (see figure 1).

Figure 1

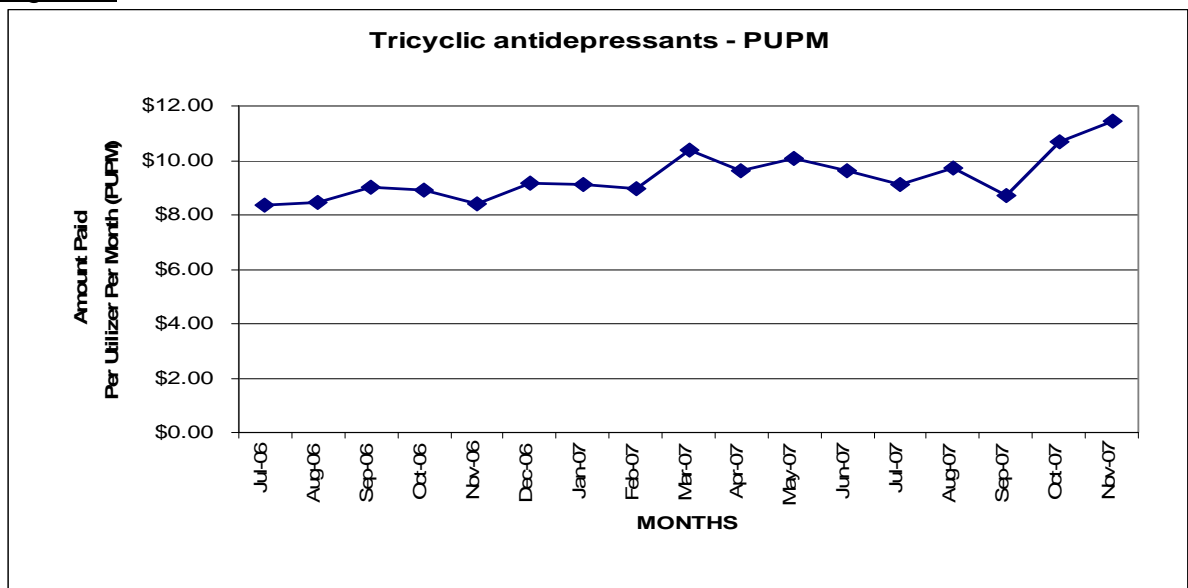
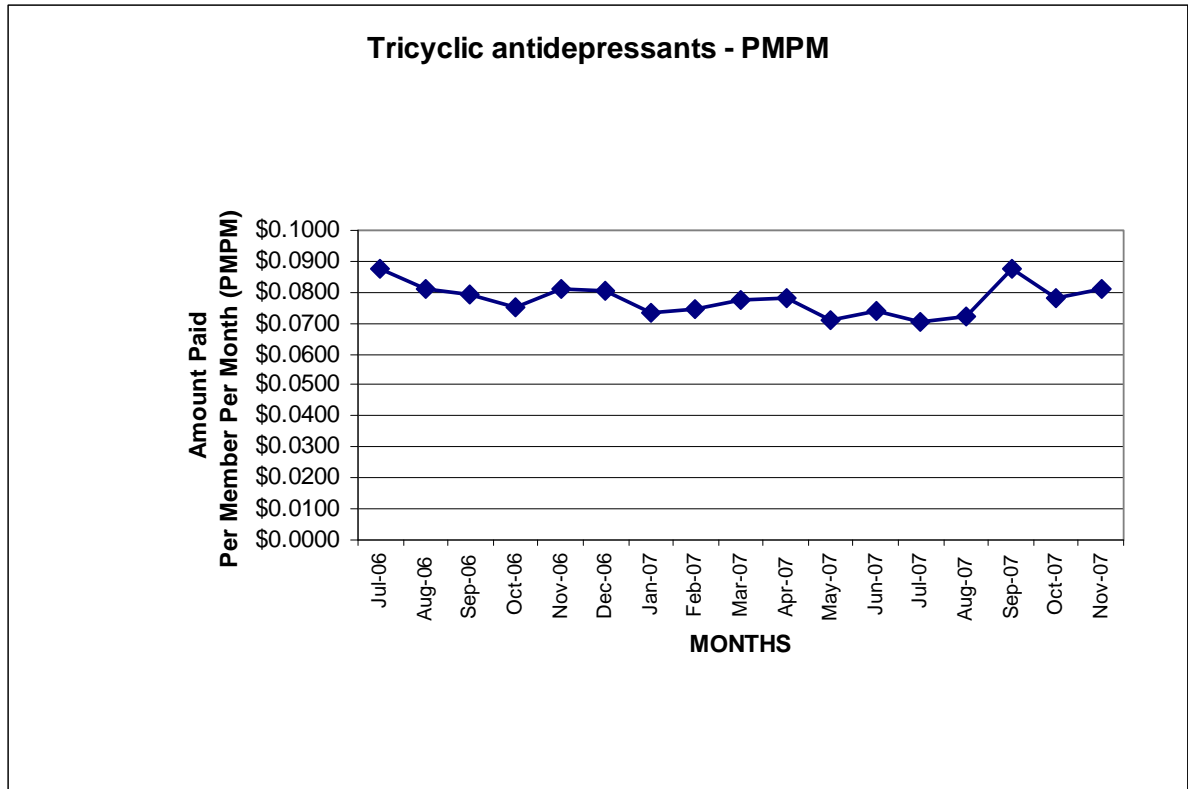


Figure 2



Typical Antipsychotic Medications:

All medications within the typical antipsychotic class are available generically. The PUPM for typical antipsychotic medications increased from \$20.80 in January 2007 to \$21.70 by May 2007 (see Figure 3). Since the PMPM remained relatively the same (see figure 4), there were only slight increases in the ingredient costs of this therapeutic class. Savings generated from the January 2007 polypharmacy quality edit of two or more typical antipsychotics medication was estimated to be \$1,728.64 for the year 2007. This was determined through regression analysis and estimating the area-under-the-curve (AUC) dollar amounts in comparing the best-fit trend if the edit had not been implemented minus the actual area AUC dollar amounts per month. PMPM figures are generally higher in recent months because of retroactive enrollment that will ultimately reduce the overall PMPM.

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Figure 3

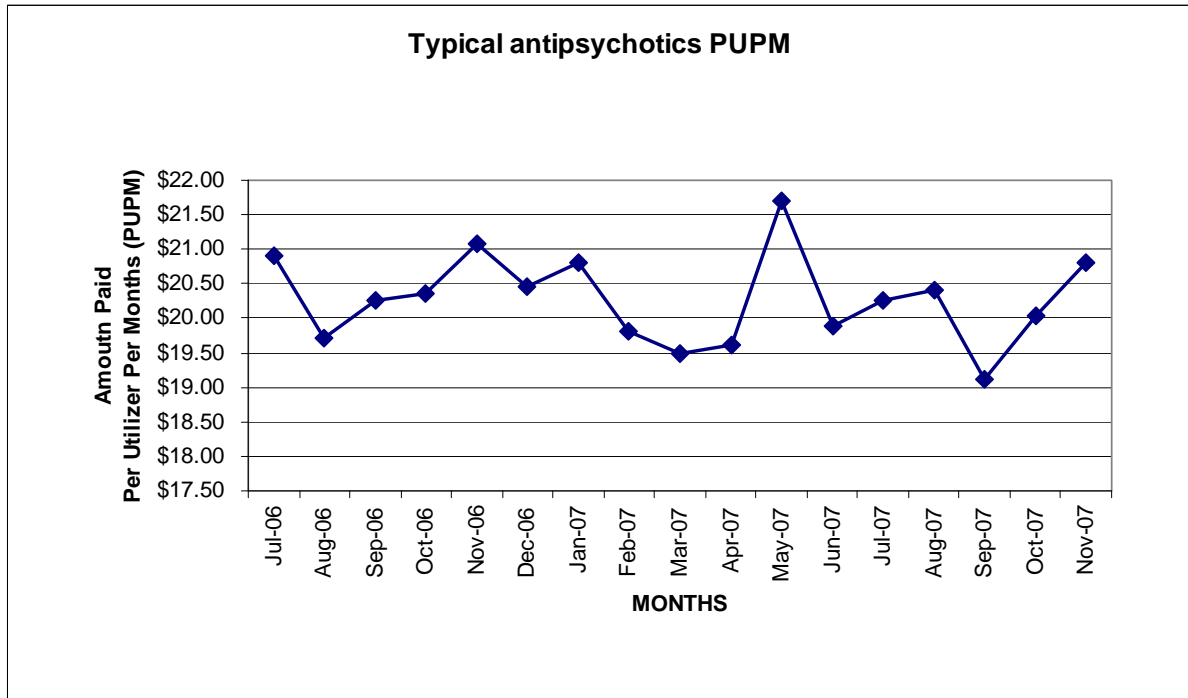
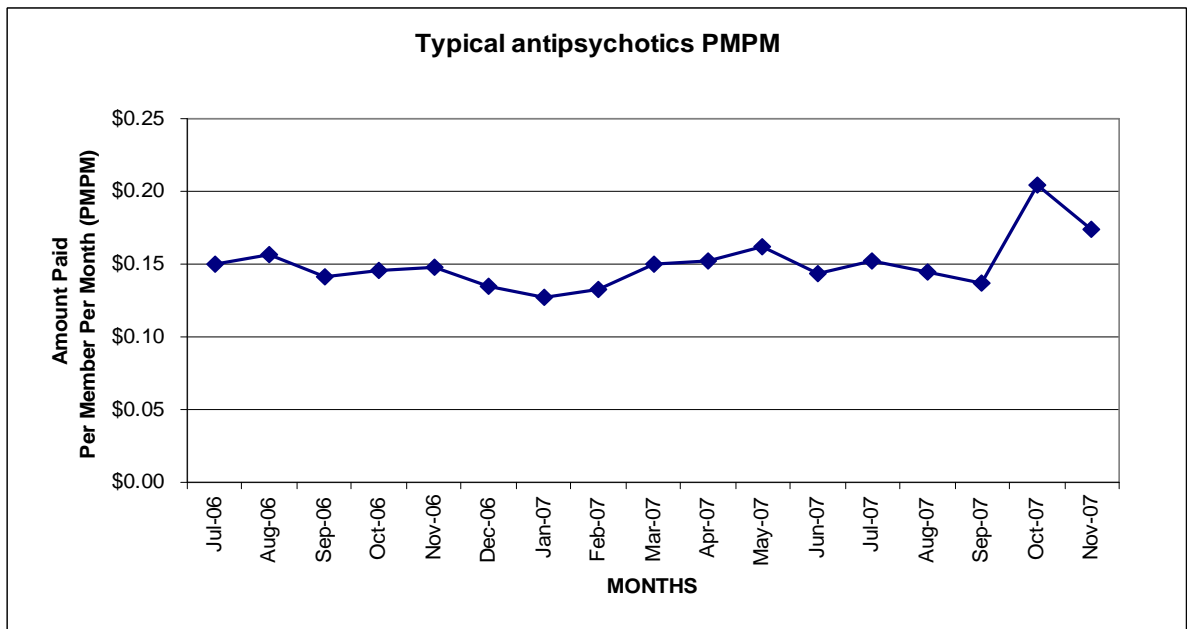


Figure 4

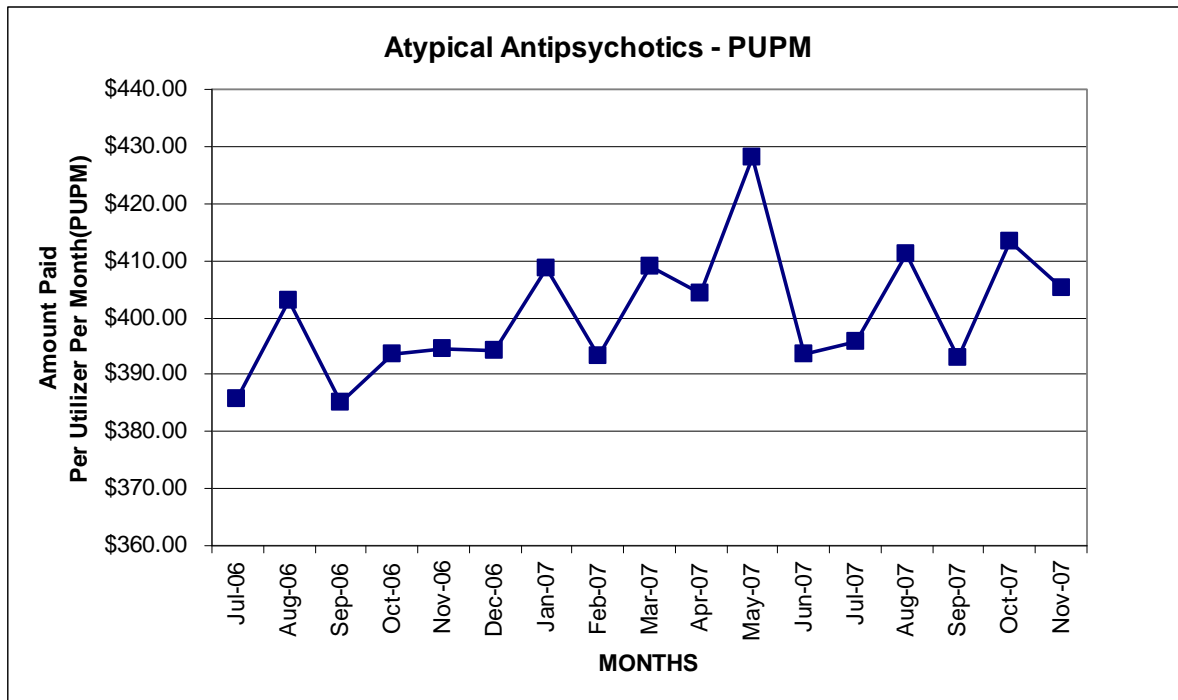


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Atypical Antipsychotic Medications:

The total amount paid for calendar year 2007 for atypical antipsychotic medications was \$56,699,140.19. For calendar year 2006, the total amount paid was \$53,805,770.28. Figure 5 further demonstrates periodic increases in the PUPM for atypical antipsychotic medications. The PUPM in December 2006 for atypical antipsychotic medications was \$394.13. After the implementation of the polypharmacy edits in January 2007, the PUPM increased to \$408.49. By May 2007, the PUPM was \$427.98. This indicates that the polypharmacy edit did not result in any cost savings, instead the cost of atypical antipsychotics continued to rise at a rate of \$5.61 PUPM or \$400,000 from January through May 2007. The PUPM increased dramatically in May, August and October 2007. This trending may be due to increases in the manufacturer's wholesale acquisition cost. Figure 6 supports the conclusion that the increase in PUPM is a result of drug cost since the PMPM remained relatively steady. In October 2007, the amount paid increased by \$56,000 due to a disproportionate increase in the number of utilizers versus the prescription count.

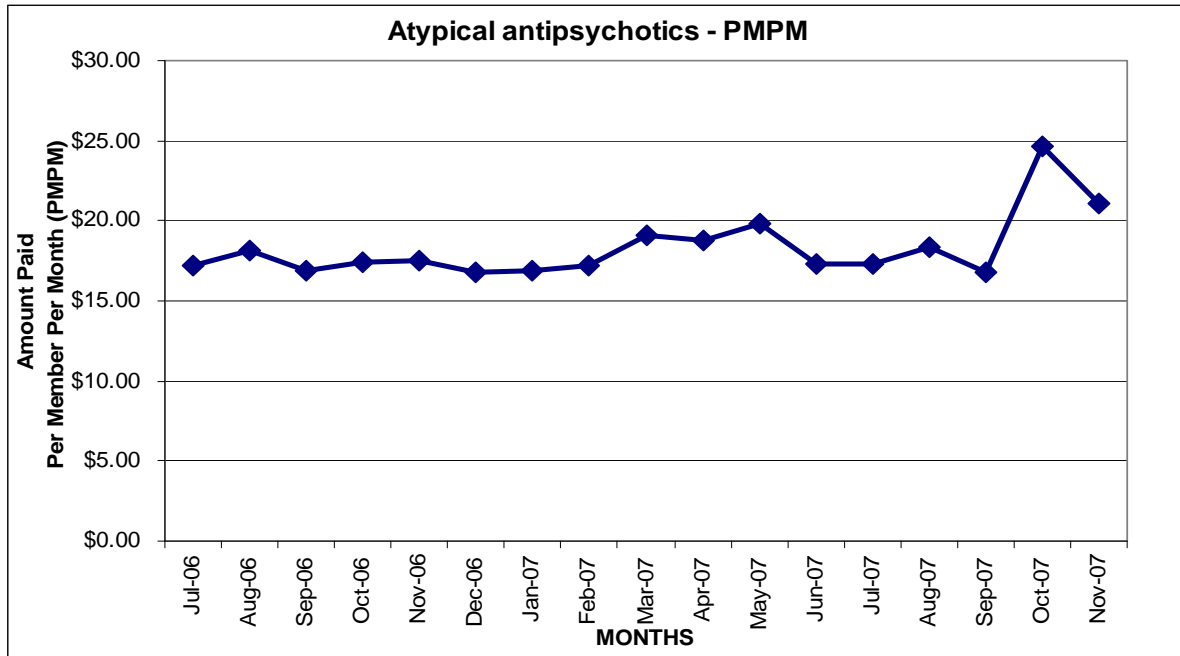
Figure 5



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Figure 6 supports the conclusion that the increase in PUPM is a result of drug pricing increases since the PMPM remained relatively steady.

Figure 6



Any Antipsychotic Medications:

The polypharmacy edit of three or more of any antipsychotic medications (included typical and atypical antipsychotic medications) did not result in any cost savings. The number of prescriptions for atypical antipsychotic medications exceeds that of typical antipsychotic medications by 96 percent. Due to the vast majority of claims being for atypical antipsychotic medications, the cost of typical antipsychotics is obscured within PUPM when both atypical and typical antipsychotics are combined. The amount paid PUPM increased from \$377.20 in January 2007 to \$392.12 by May 2007 (see figure 7). This observation is consistent with the above atypical antipsychotic edit.

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Figure 7

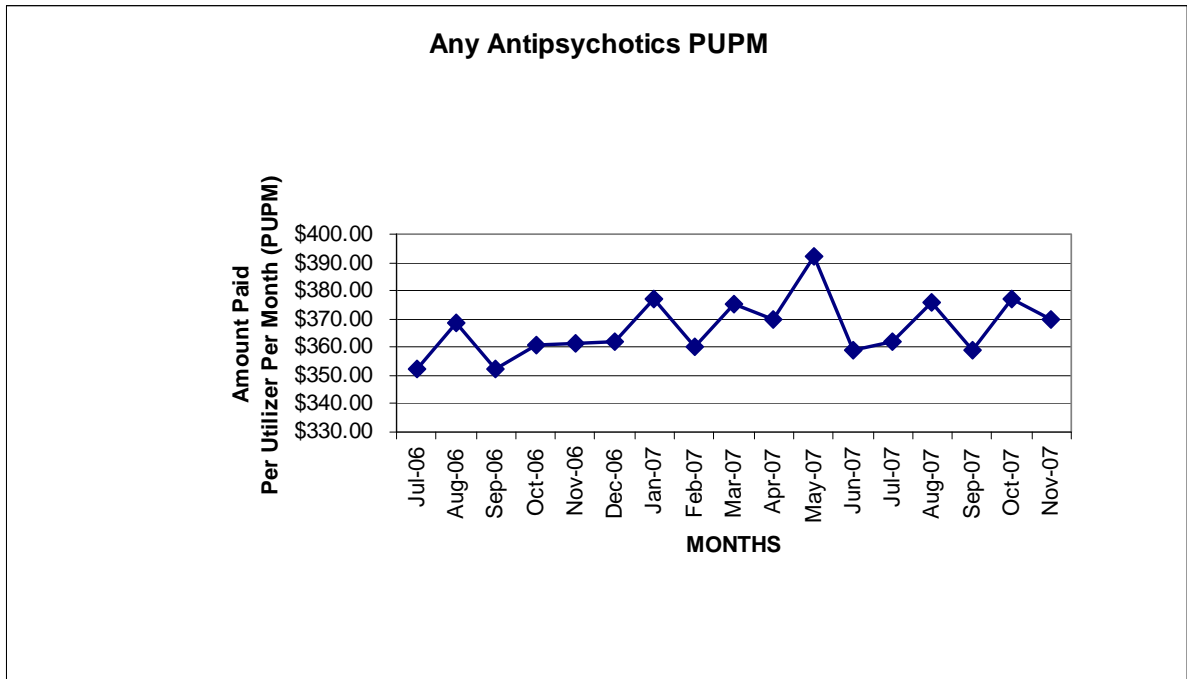
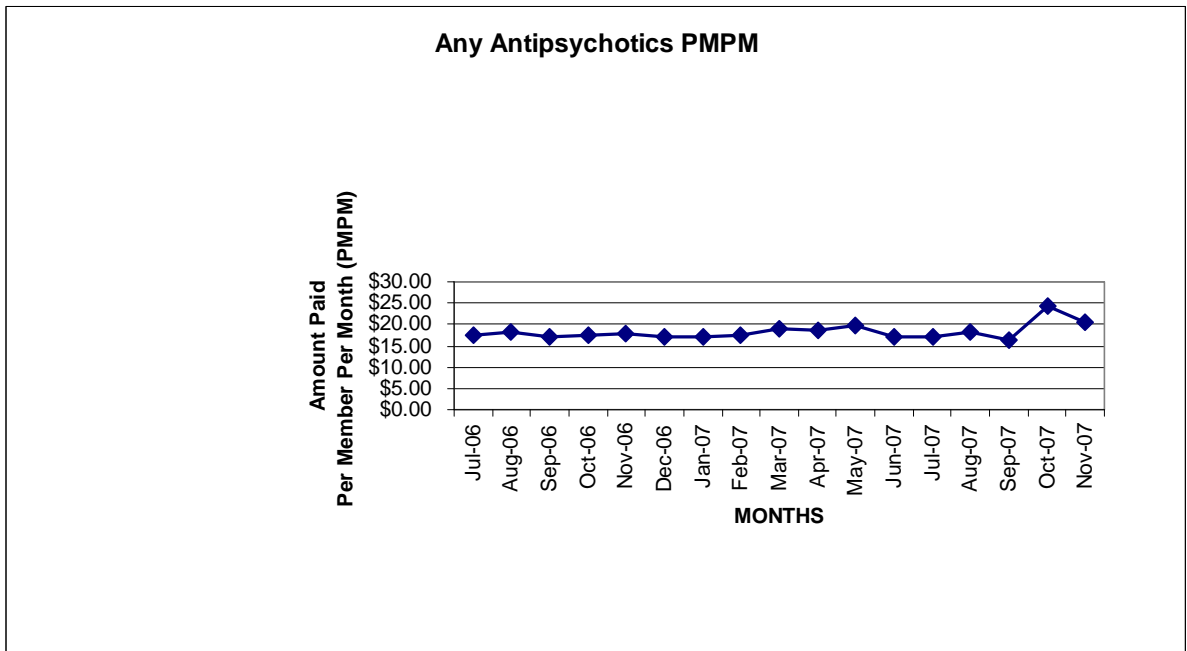


Figure 8

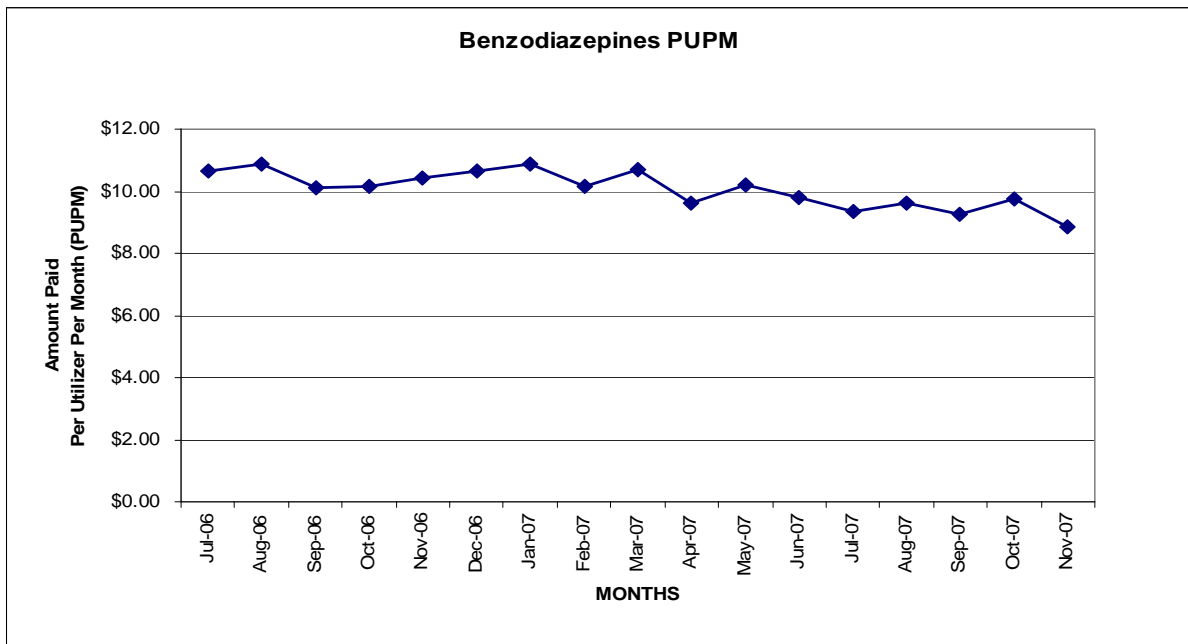


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Benzodiazepine Medications:

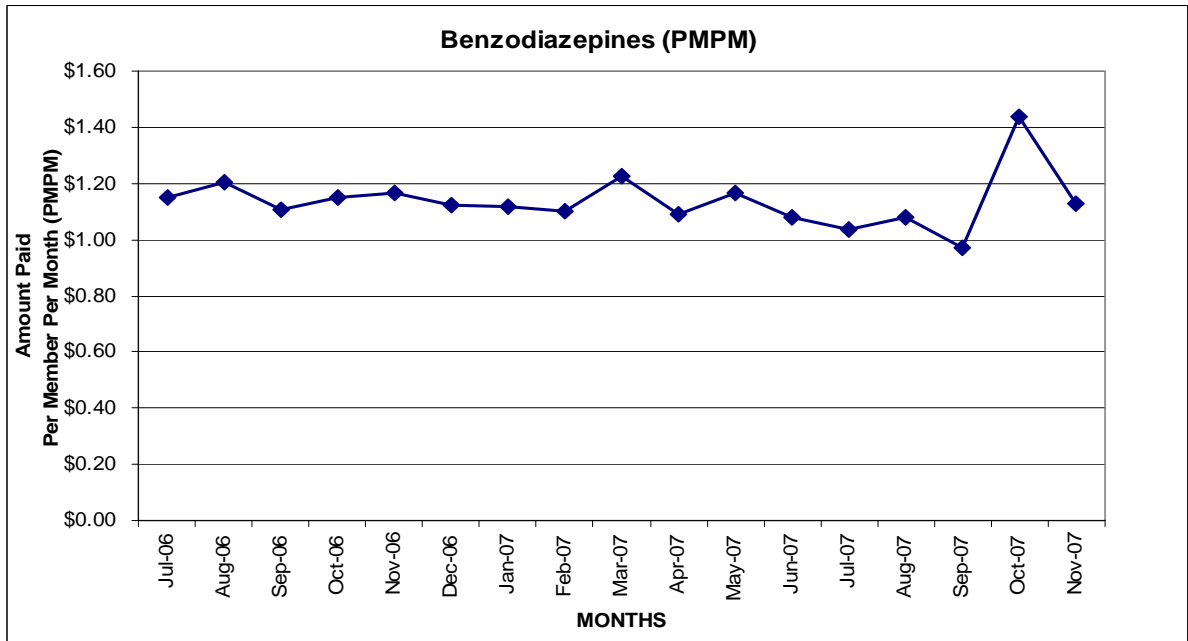
The cost of benzodiazepine medication is relatively low due to several available generic options. Figure 9 shows that in December 2006, the PUPM for benzodiazepines was approximately \$10.50. After the implementation of the polypharmacy edits, the amount paid PUPM decreased by \$0.12 PUPM for benzodiazepines users and resulted in an estimated savings of \$5,988 from January through May 2007.

Figure 9



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Figure 10



Antidepressant Medications:

The class of antidepressants incorporates several subclasses of medications including SSRIs, SNRIs, MAOIs, TCAs and the combinations thereof. Under this class of medication, there are several generic options available. The total amount paid for the calendar year 2006 was approximately \$15.6 million. After the January 2007 polypharmacy edit of three or more of any antidepressants excluding trazodone was implemented, the PUPM remained relatively steady and did not produce any cost savings. In fact, costs for antidepressants continued to increase by an estimated \$0.58 PUPM or \$58,000 from January through May 2007.

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Figure 11

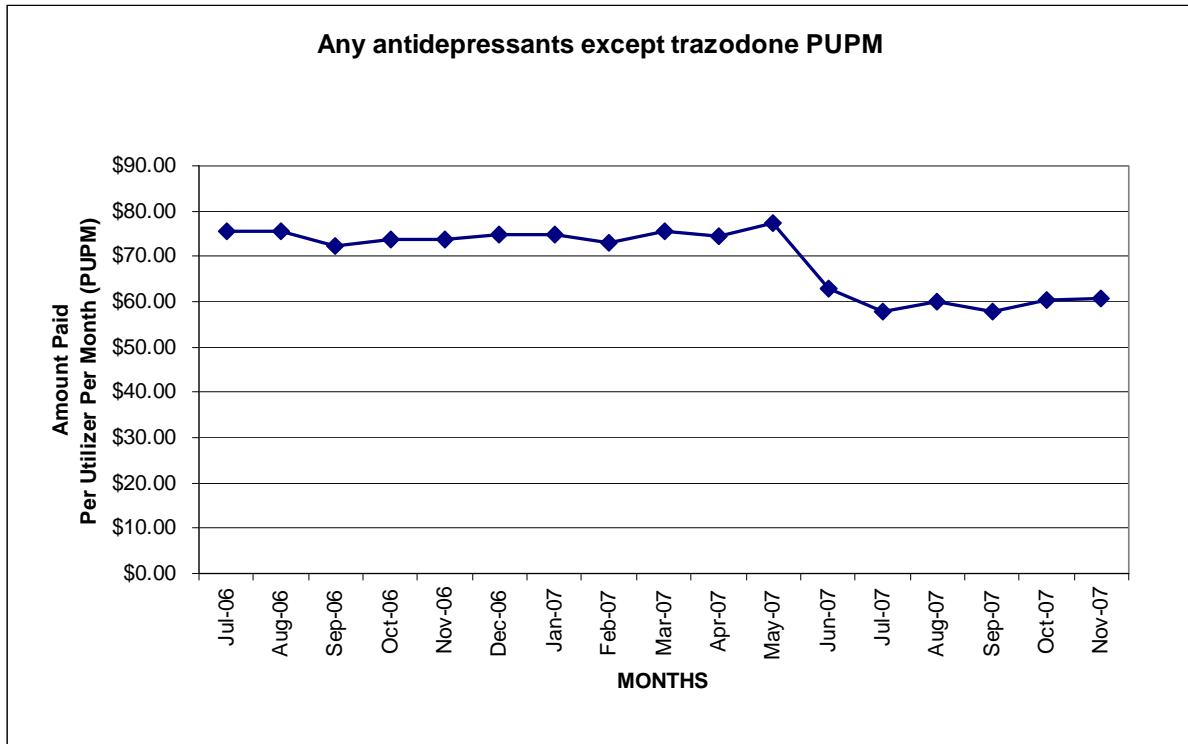
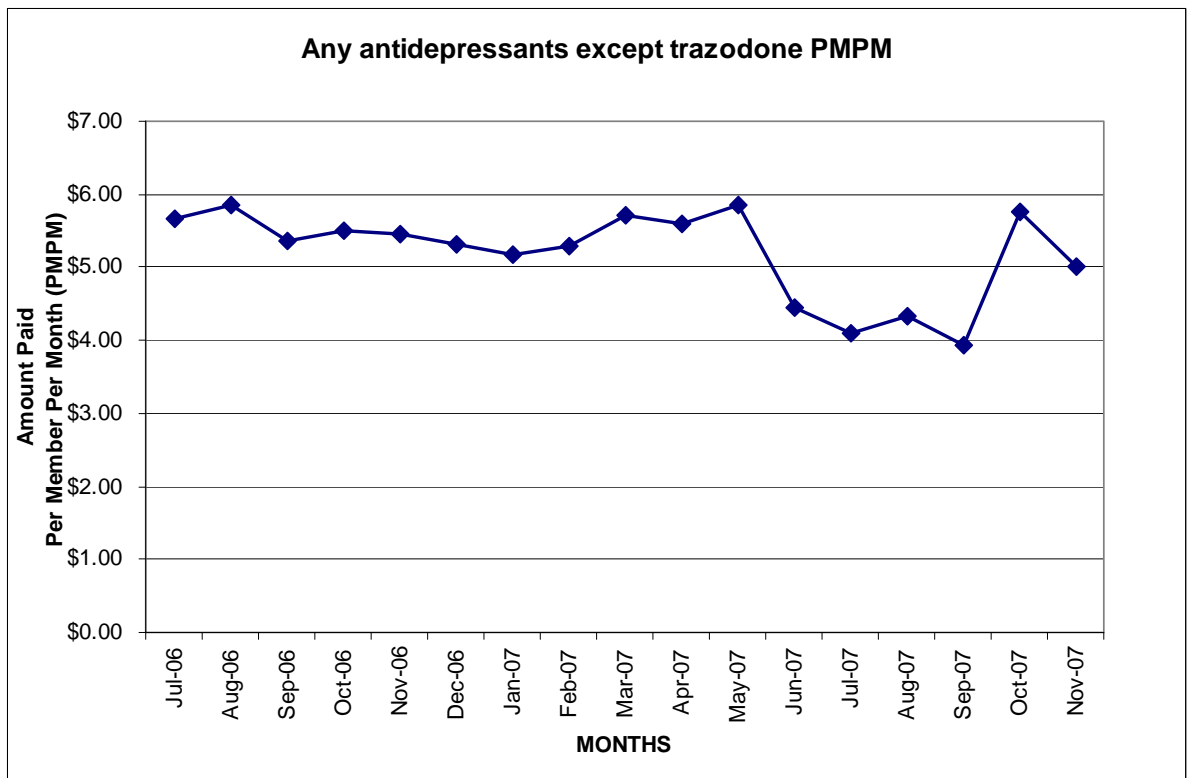


Figure 12



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Utilization Edits: Implemented June 19, 2007

The utilization edits were developed to enhance the quality and appropriateness of mental health medication prescribing practices. The quantity per day limit was applied to a number of drug classes. For the purpose of this report, we chose to focus analysis on specific behavioral health drug classes that include: ADHD/stimulants, anti-anxiety, antidepressants, sedative hypnotics and antipsychotic medications (atypical and typical antipsychotic medications)

Antidepressant Medications

There are several medications under this class that are classified as antidepressants such as SSRIs, SNRIs, TCAs, and combinations thereof. In the calendar year 2006, the total amount paid for the class of antidepressants was approximately \$15.6 million. In January 2007 through May 2007, the PUPM remained relatively constant (see figure 13). After the implementation of the edits in June, there was a substantial drop of PUPM from \$67 to \$53.

Savings specifically due to the utilization edit only for Zoloft and sertraline alone are estimated to be \$1,171,716 up through December 2007 due to relatively flat pricing across product strengths. Savings were bolstered by the availability of generic sertraline and through addition of a SMAC price, the state of Indiana significantly increased those savings. Savings specifically due to sertraline having a SMAC implemented in July 2007 (and adjusted in October 2007) are estimated to be \$305,142 through December 2007.

Savings generated from the June 2007 utilization edits for the rest of the antidepressants therapeutic class were estimated to be \$800,000 from June 2007 through December 2007. The combined savings for the June 2007 utilization edits for the entire antidepressant therapeutic class was approximately \$2,276,115.

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Figure 13

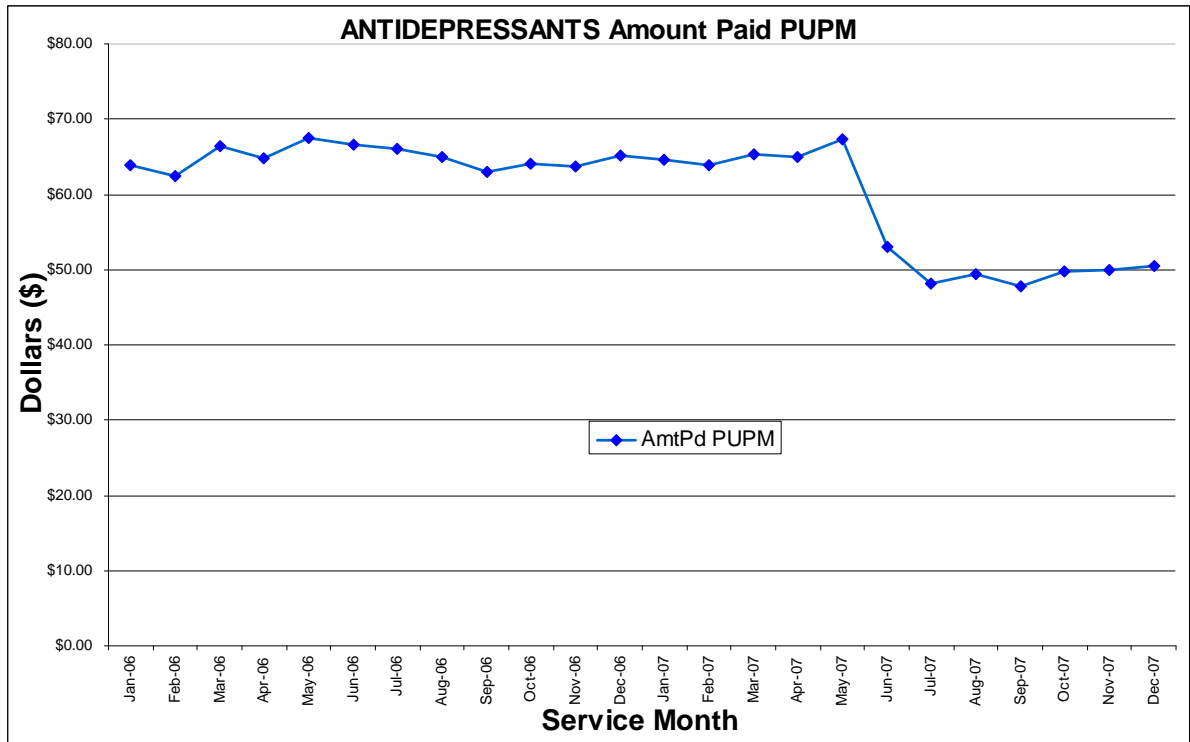
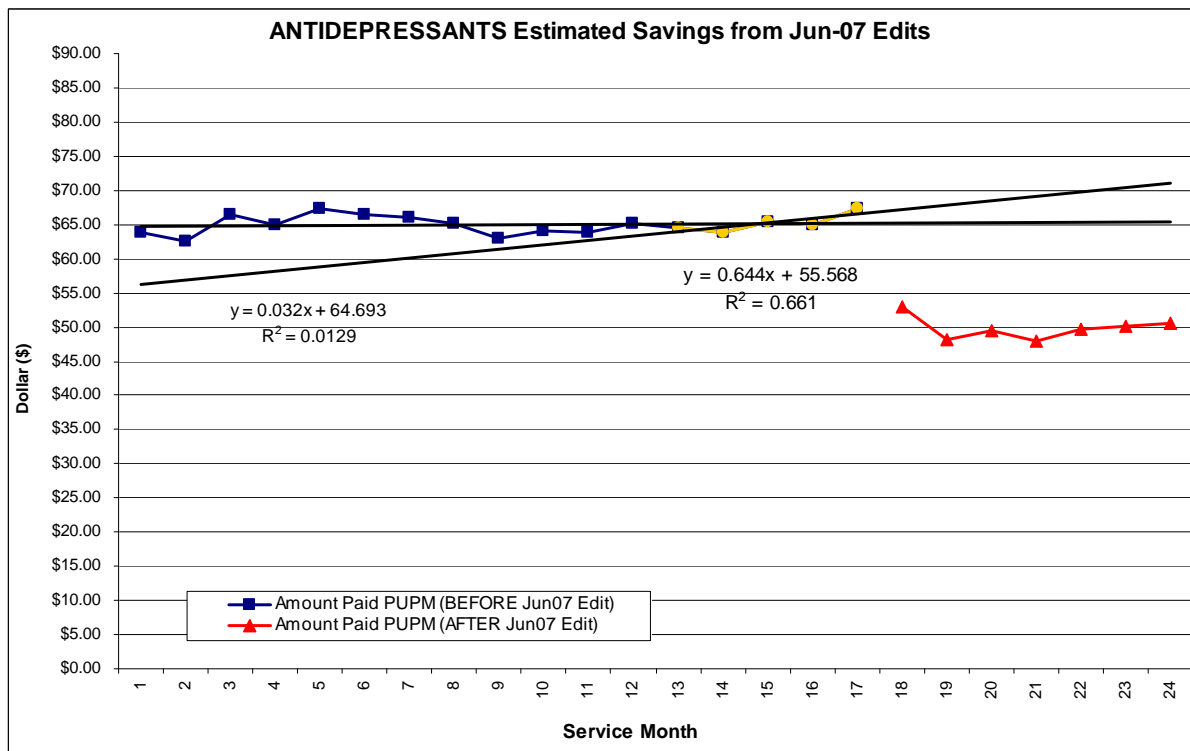


Figure 14

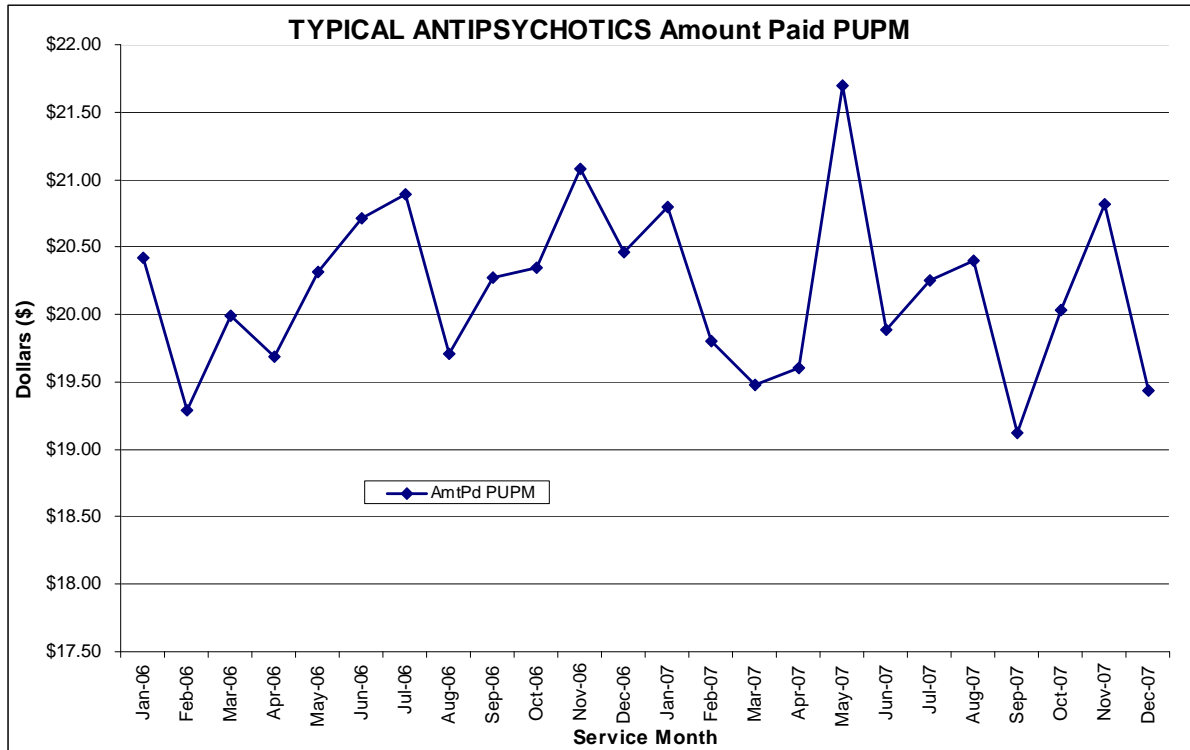


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Typical Antipsychotic Medications

The PUPM for typical antipsychotics is much lower when compared to atypical antipsychotic medication (see figure 15). The total amount paid for the calendar year 2006 for typical antipsychotic medications was approximately \$152,764.25. The utilization edit resulted in savings of \$0.63 PUPM or \$2,634 for typical antipsychotic medications.

Figure 15



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Atypical Antipsychotic Medications

In the calendar year 2006, the total amount paid for atypical antipsychotic medications was approximately \$54 million. After the implementation of utilization edit in June 2007, the PUPM started trending downward. The PUPM for atypical antipsychotic medications dropped from \$352.86 to \$317.38 from May to November 2007, respectively (see figure 16). The utilization edit resulted in a savings of \$2,889,863.11 for atypical antipsychotic medication through December 2007 (see figure 17).

Figure 16

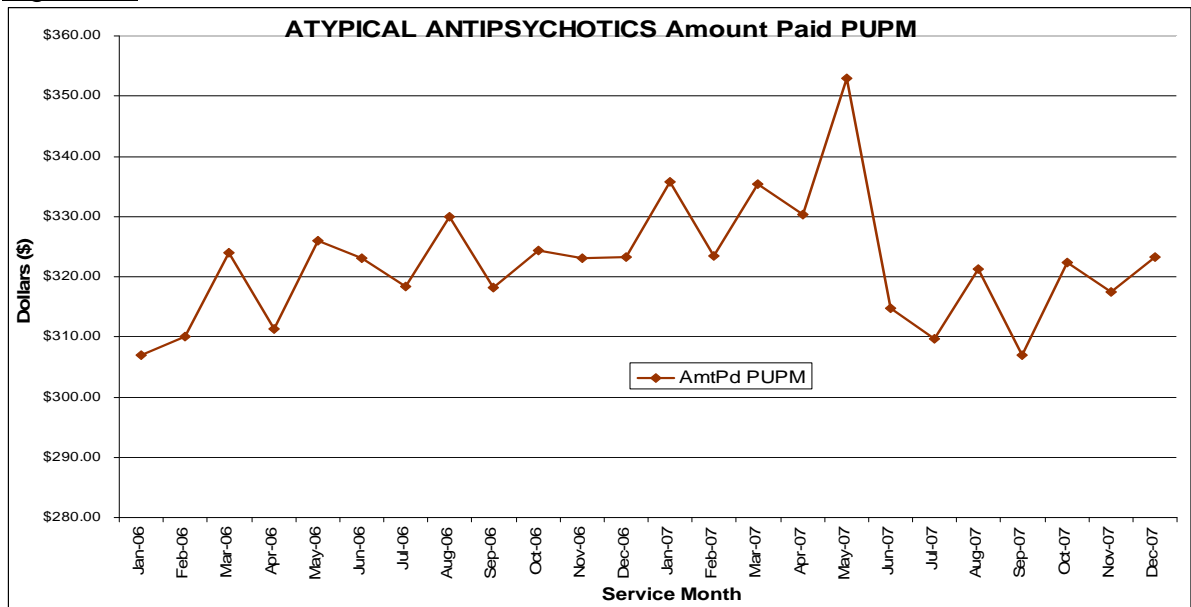
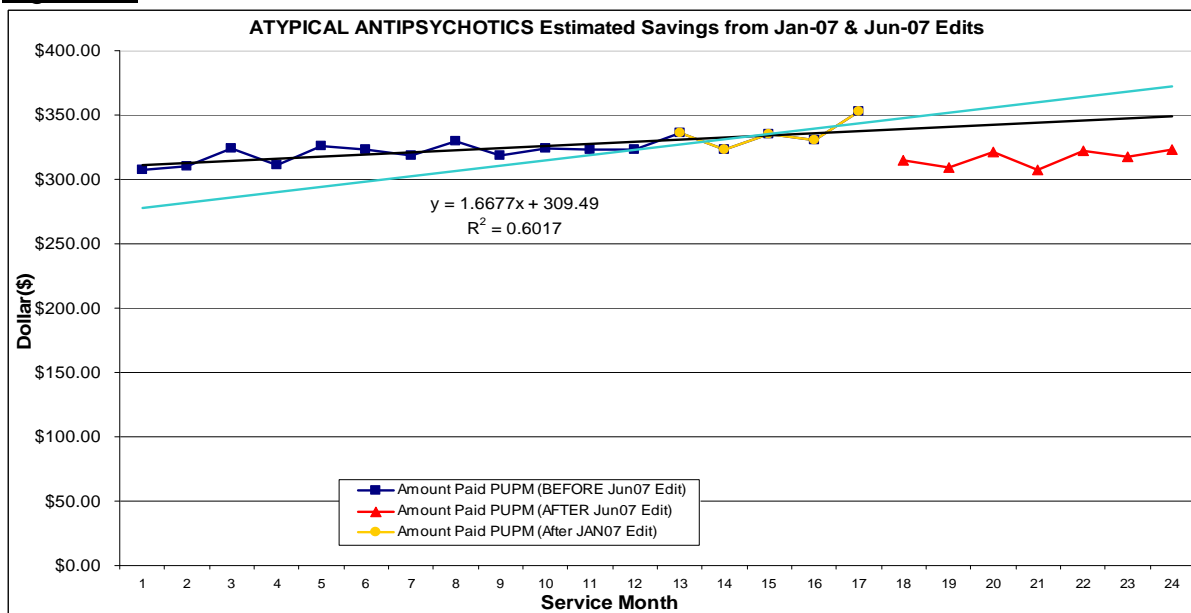


Figure 17

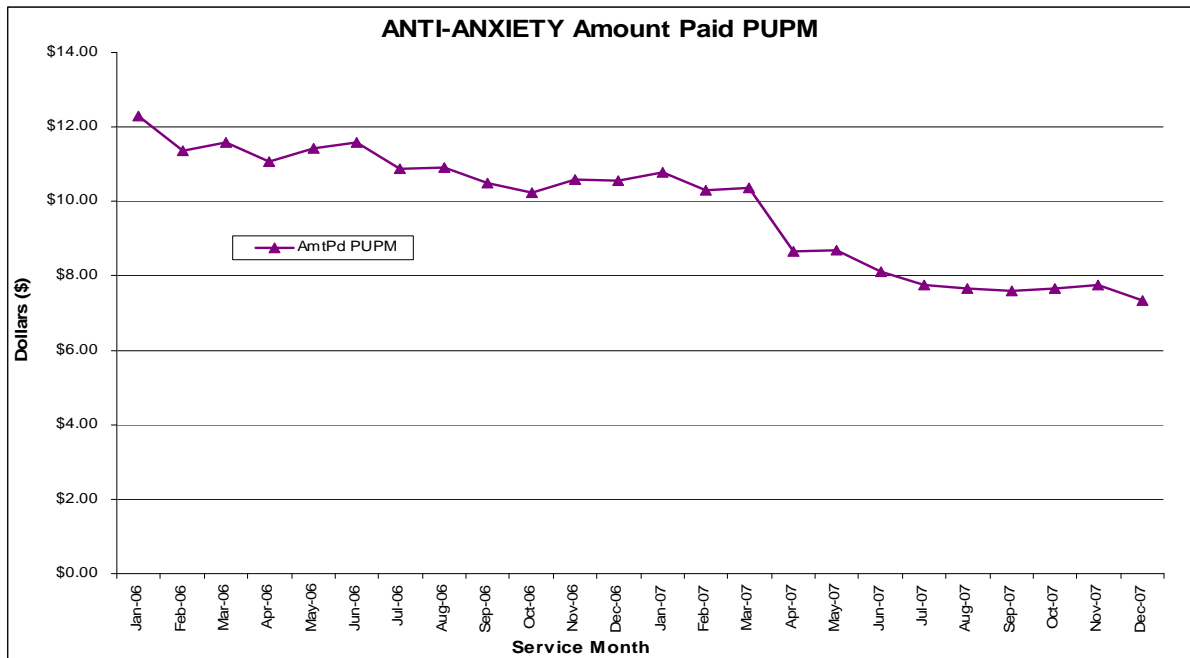


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Anti-Anxiety Medications

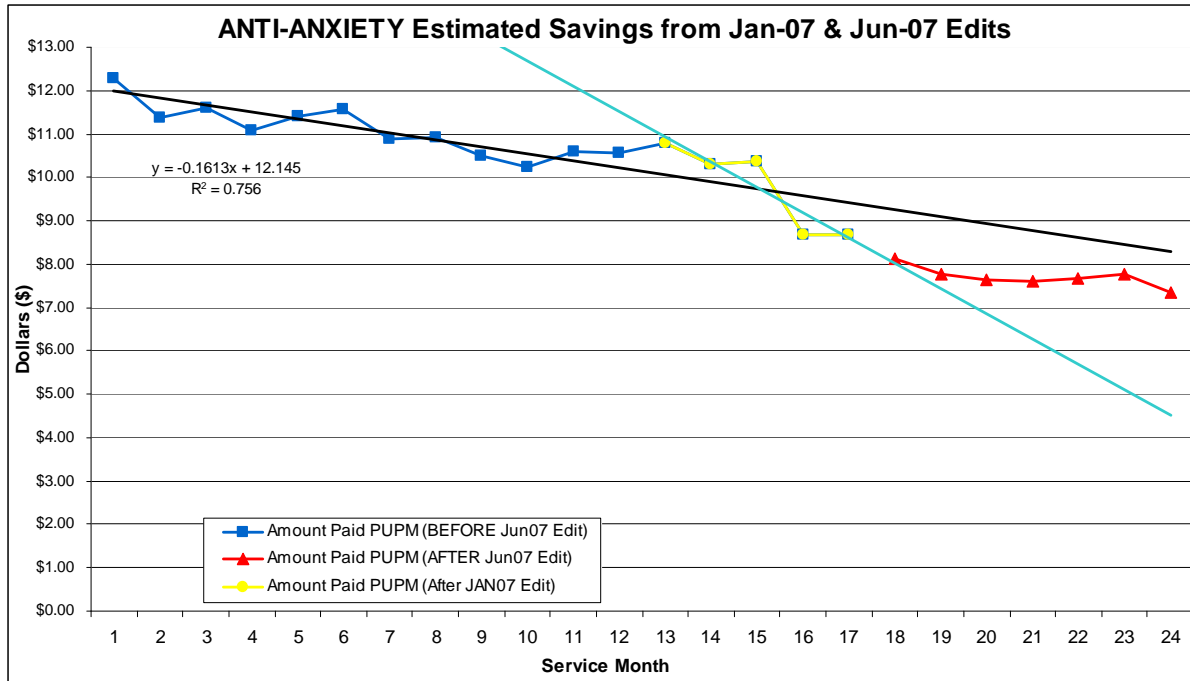
Overall, the cost of benzodiazepines trended downward. After the implementation of utilization edits, the PUPM decreased by \$1.06 (see figure 18). This was determined by regression analysis to calculate the portion attributable to the edit (see figure 19). This particular edit generated a cost savings of \$73,757.65 through December 2007. This was determined through regression analysis.

Figure 18



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Figure 19



Sedative Hypnotics Medications

In calendar year 2006, the total amount paid for this class of medication was approximately \$3.53 million. The PUPM steadily increased by 18% by the end of the year 2006. On average, the cost continued to trend moderately upward until May 2007 when zolpidem, the generic for Ambien became commercially available. The cost then trended downward (see figure 20)

The implementation of utilization edits on sedative hypnotics and the state’s MAC program further accelerated the downward trend. In June 2007, the PUPM was \$63.40 and by the end of December, the PUPM was \$42.55 (see figure 21). The cost saving due to the utilization edit was calculated to be \$632,971.99 and \$552,685.74 due to SMAC program (see figure 21).

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Figure 20

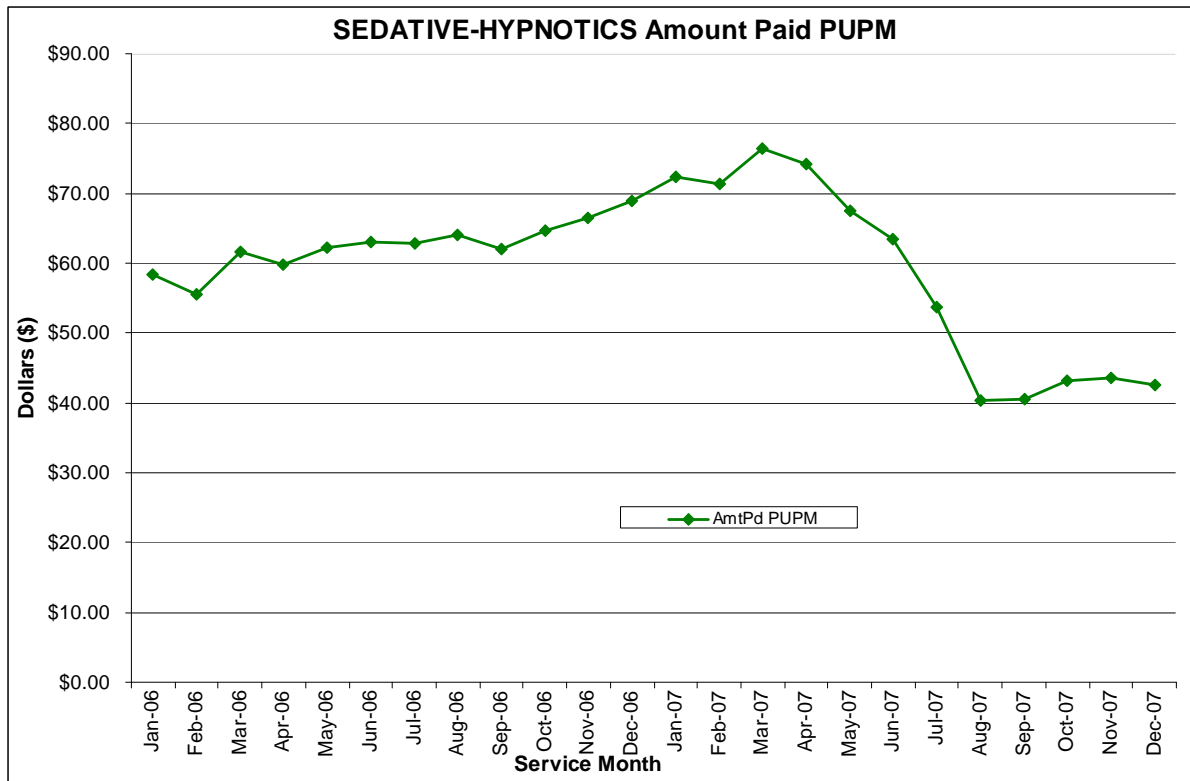
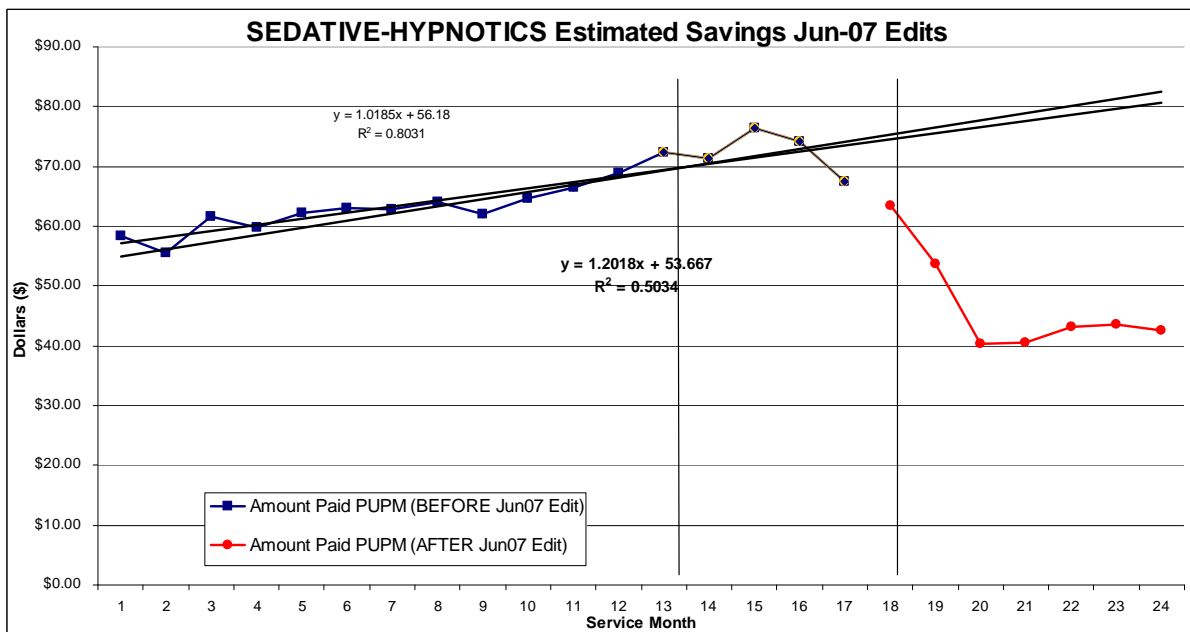


Figure 21



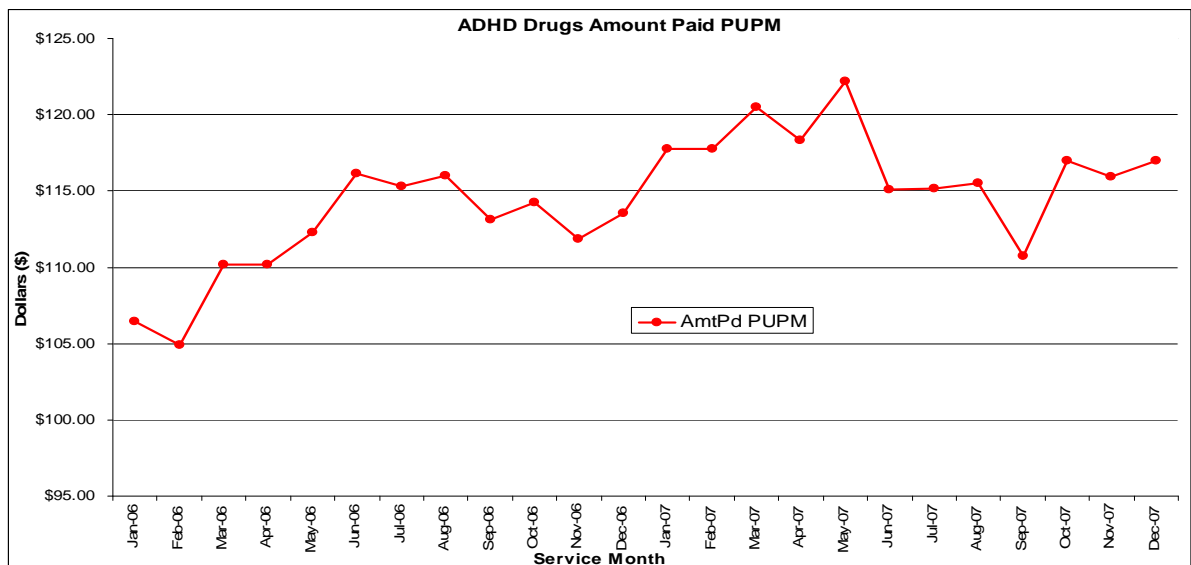
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ADHD/Stimulant Medications

The PUPM for ADHD/stimulant agents gradually increased from \$106.44 in January 2006 to \$113.54 by December 2006 (see figure 22). In the calendar year 2006, the total amount spent on stimulants was approximately \$9.6 million. During the first two quarters in 2007, the PUPM gradually trended upwards and increased to high of \$122.20 by May 2007. Despite many generic options, the cost trended upward due to the availability of several new once daily agents on the market. After the implementation of the June 2007 utilization edits, the PUPM dropped by 6% in the month of June (see figure 22). By December 2007, the edit appears to have generated a cost savings of \$8.53 PUPM and the total cost savings of \$437,411.12 (see figure 23). This was determined through regression analysis.

Figure 22



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Figure 23

