

Program Outcomes

Evaluating, Measuring, and Identifying
Patient Care Benefits and Cost Reduction

Kansas Medical Assistance Programs
Retrospective Drug Utilization Review
Provider Education and Intervention Program

Psychotropics in Children and Adolescents
Mailed June 2011

Prepared by Health Information Designs
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www.hidinc.com



Executive Summary

This *Outcomes Assessment* report prepared for the Kansas Medical Assistance Programs shows the expected improvements in beneficiary health and cost savings from using retrospective drug utilization review and provider education to effect appropriate prescribing and utilization and, in turn, prevent adverse drug reactions and reduce costs in a targeted beneficiary population.

Program Summary

The unapproved use of psychotropic medication in children and adolescents must be used after the potential risks have been weighed against the clinical need. Many psychotropic agents have not been studied in this population, and in agents that have been studied, safety and efficacy have not been established. Hence, the long-term side effects of these agents are unknown in this population. In an effort to improve clinical outcomes and reduce drug expenditures as well as related health care costs, Kansas Medical Assistance Programs beneficiaries less than 18 years of age with psychotropic utilization were identified, and educational intervention letters were mailed to their prescribers in June 2011. The selected beneficiaries were then evaluated 6 months after the prescriber letters were mailed to determine the impact of the intervention letters.

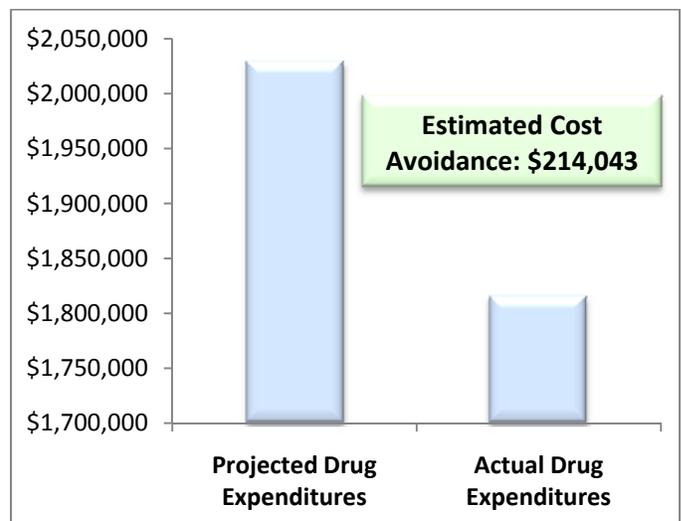
Changes in Criteria Exceptions

At the 6-month evaluation post intervention, appropriate utilization was improved in the target population. Six months after letters were mailed to the prescribers, 560 of the original 692 beneficiaries had at least one claim for any drug and could be evaluated. **Of those remaining 560 beneficiaries, 36.6% were found to no longer have the same therapy problem that their prescriber received a letter regarding.** Based on improved utilization, it is clinically probable that serious adverse outcomes were avoided, and overall drug utilization was reduced.

PRE-Intervention (June 2011)	POST-Intervention (December 2011)		
Beneficiaries with Letter Mailed to Prescriber	Beneficiaries with Any Drug Claim	Beneficiaries with Same Criteria Exception	% Decrease in Criteria Exceptions
692	560	355	36.6%

Cost Avoidance for Kansas Medical Assistance Programs

Actual drug expenditures for the post intervention period were compared to projected drug expenditures. For the 6-month post-intervention period, actual drug expenditures for the intervention population were \$1,815,693 compared to the projected cost of \$2,029,735, **an estimated cost avoidance of \$214,043 for the 6 months following the mailing of intervention letters.**



Background

Health Information Designs (HID), in coordination with HP Enterprise Services (HPES), currently performs retrospective drug utilization review (RetroDUR) for Kansas Medical Assistance Programs' fee-for-service population. The total number of unique beneficiaries enrolled in the traditional Medicaid fee-for-service population in State Fiscal Year (SFY) 2011 (July 1, 2010 – June 30, 2011) was 292,522, with an average of 158,846 beneficiaries per month. Prescription claims for approximately 51,000 beneficiaries were processed each month in SFY 2011.

The treatment of children and adolescent patients with a diagnosis for which there are few to no approved medications is a challenge faced by providers. The use of many psychotropic medications has not been studied in this population, and the long-term side effects are not well understood. "Data on the safety and efficacy of most psychotropics in children and adolescents remain limited and are in sharp contrast with the advances and sophistication of the adult field. In child and adolescent psychiatry, changes in clinical practice have, by far, outpaced the emergence of research data and clinical decisions are frequently not guided by a scientific knowledge base¹."

According to the American Academy of Child and Adolescent Psychiatry policy statement on the Prescribing of Psychoactive Medication for Children and Adolescents, "It is important to balance the increasing market pressures for efficiency in psychiatric treatment with the need for sufficient time to thoughtfully, correctly, and adequately, assess the need for, and the response to medication treatment²." The prescribing of psychoactive medications in this population requires the judgment of a physician with training and qualifications in the use of these medications in this age group.

The prevalence of psychotropic utilization in kids is significant for Kansas Medical Assistance Programs for multiple reasons; one being that the program is precluded by state statute to manage medications for mental health indications. Another reason the prevalence of psychotropic utilization in kids is significant in Kansas is because much of the state does not have regular access to health care providers that specialize in mental health, especially in children. Since Kansas Medical Assistance Programs are unable to restrict these medications, dissemination of treatment guidelines and relevant information to providers is one of the only strategies available.

¹ Vitiello, B. et. al., JAACAP, 38(5), p.501, May 1999

² AACAP Policy Statement *Prescribing Psychoactive Medications for Children and Adolescents*. 2001

Beneficiary Identification and Prescriber Intervention

In an effort to promote appropriate prescribing and utilization of psychotropic agents in kids, HID identified beneficiaries under 18 years of age receiving psychotropic agents not indicated in kids and mailed educational letters to their prescribers. When more than one prescriber was attributed to pertinent claims on a patient profile, letters were mailed to all relevant prescribers. Informing prescribers of a patients' complete drug and diagnosis history, including medications prescribed by other providers, may reduce duplicate prescribing of medications and reduce the potential for abuse or diversion of medications.

While the intervention letter itself only addressed psychotropic agents, HID included a patient profile with up to two additional alert messages regarding drug therapy issues and a 6-month history of drug claims and diagnoses along with the letter. Prescribers had the opportunity to review the entire beneficiary drug and diagnosis history, including medications prescribed by other providers, and make changes to therapies based upon this information. For this reason, whenever intervention letters are sent to prescribers, the impact on total drug utilization should be measured. Therefore, total drug utilization in the targeted population was evaluated for 6 months before and after intervention letters were mailed to determine any change in drug cost.

Analysis Methodology

Each month HID evaluates Kansas Medical Assistance Programs pharmacy claims data against thousands of proprietary criteria. The criteria are developed and maintained by HID clinical pharmacists who review package insert updates as well as medical literature to develop the criteria.

Criteria Evaluated

The following criteria were reviewed for the intervention letters mailed in June 2011.

Therapeutic Appropriateness:

- The safety and efficacy of paliperidone have not been established in patients less than 18 years of age.
- The safety and efficacy of duloxetine in pediatric patients have not been established, when using duloxetine in a child or adolescent the potential risks must be balanced with the clinical need.
- The safety and efficacy of citalopram in pediatric patients has not been established. Two placebo-controlled trials in 407 children with major depressive disorder have been conducted with citalopram, and the data were not sufficient to support a claim for use in pediatric patients.
- The safety and efficacy of paroxetine use in pediatric patients have not been established. Three placebo-controlled trials in 752 pediatric patients with major depressive disorder have been conducted with paroxetine, and the data were not sufficient to support a claim for use in pediatric patients.
- The safety and efficacy of sertraline for the treatment of depression, panic disorder, PTSD, PMDD, or social anxiety disorder have not been established in the pediatric population. Sertraline is approved in pediatric patients 6 years of age and older for obsessive compulsive.

Beneficiary Selection

A total of 1,008 beneficiaries met the criteria for psychotropic utilization in kids. The drug history profile for each beneficiary was reviewed by a clinical pharmacist to determine if the beneficiary should be selected for intervention. Beneficiaries were not selected for intervention after profile review for multiple reasons, including the following:

- A recent change from the same prescriber
- A recent change to stimulant therapy from the same prescriber
- Multiple strengths of a medication from the same prescriber

After beneficiaries were selected for intervention, educational intervention letters—along with a complete drug and diagnosis history profile listing all pharmacy and available diagnosis claims data for the past 6 months—were mailed to the appropriate prescribers. (Prior to mailing, generated letters undergo a quality assurance (QA) process. Some letters are not mailed due to various reasons, including missing or invalid prescriber addresses.)

Beneficiaries Reviewed	Beneficiaries Selected for Intervention	Beneficiaries Actually Intervened	Letters Generated	Letters Deleted in QA process	Letters Mailed
1,008	712	692	712	12	700

Once a beneficiary was selected for intervention, the criteria were suppressed by the DUR system for that beneficiary for 6 months.

Prescriber Response Tabulation

The intervention letter and drug history profile included a response form, which allowed the prescriber to provide feedback and enabled HID to determine whether any action would be taken in response to the letter. The response form includes standard responses printed on the form that allow the prescriber to check a box for the response that best fits their intended action as well as space for written in comments from the prescriber.

The prescribers were encouraged to return the response forms using the self-addressed stamped envelope included with the intervention letter or via fax. HID tracked all response forms returned as well as all written-in comments from prescribers for evaluation. See the [Results](#) section for these numbers.

Evaluation of Changes in Criteria Exceptions

In an effort to determine the impact of the intervention letters independent of prescriber responses, beneficiary claims were evaluated 6 months after letters were mailed. Since the letters were mailed in June 2011, the 6-month follow up was performed in December 2011. HID first determined how many of the initially-selected beneficiaries continued to have Medicaid benefits and still had active eligibility by determining how many had any claim for any drug in December 2011. Following that, HID determined who still met the same criteria for psychotropic utilization in kids in December 2011. See the [Results](#) section for these numbers.

Estimated Cost Avoidance and Changes in Drug Utilization

To determine the impact of the intervention letters on overall drug expenditures, total drug utilization (claims for all drugs) in the targeted population was evaluated 6 months before and 6 months after intervention letters were mailed. For those beneficiaries selected for intervention in June 2011, HID determined the total drug expenditures for January 2011 – June 2011 (pre-intervention period) and July 2011 – December 2011 (post-intervention period). HID then compared drug expenditures and utilization in the targeted population for the pre- and post- intervention time frames with a comparison group to determine the estimated impact of the intervention letters.

The comparison group consisted of fee-for-service beneficiaries who were identified using the same criteria, but whose prescribers did not receive an intervention letter because they did not hit the intervention criteria in the same month that intervention letters were mailed.

For a beneficiary to be included in the analysis for either the intervention or comparison groups, he or she had to have at least one claim for any drug in the month at the beginning of the pre-intervention period (January 2011) and the month at the end of the post-intervention period (December 2011).

Estimated cost avoidance and projected drug expenditures were determined for the intervention group by using the percent change from pre-to post-intervention in both groups, using the following equations:

Estimated Cost Avoidance = Intervention Group Pre-Intervention Cost X ((% Change Comparison Group - % Change Intervention Group)/100)

Projected Drug Expenditures = Estimated Cost Avoidance + Post-Intervention Drug Expenditures

The same equations were used to determine the estimated claims avoided. See the [Results](#) section for changes in drug utilization and expenditures.

Limitations

One limitation resulted from the fact that no eligibility data was available to determine whether beneficiaries continued to be eligible for Medicaid for the full 6 months before and after intervention letters were mailed. Therefore, as a means to test for Medicaid eligibility when calculating cost avoidance, HID determined how many beneficiaries had any claim for any drug during the first month of the pre-intervention period and the last month of the post-intervention period. Those beneficiaries who did not have claims in both months were not included in the follow up analysis. It is possible that some patients may have been excluded from the follow up analysis that continued to have Medicaid eligibility but had no recent pharmacy claims.

A similar eligibility process was applied to the changes in criteria exceptions. Since the change in criteria exceptions only dealt with the month the letter was mailed and 6 months after the letter was mailed, drug claims during the month coinciding with the 6-month follow up were examined to determine eligibility.

The reduction in drug utilization and expenditures could be effected by multiple factors; it would be impossible to attribute the changes in utilization and expenditures to one thing—including the intervention letters. The comparison group is used to evaluate these factors, as many of them affect the entire Medicaid fee-for-service population.

Results

Prescriber Responses to Intervention Letters

A total of 149 coded responses were received from prescribers who were sent an intervention letter, for a response rate of 21.3%. Out of the 149 coded responses, there were 3 response forms that had additional written comments. Coded responses are in the table below, followed by examples of written comments.

Response	Number
Benefits of the drug outweigh the risk	12
Beneficiary no longer under this prescribers care	6
Reviewed information and continuing therapy without change	101
Prescriber will modify drug therapy	4
Beneficiary has not been seen recently	2
Beneficiary was never under prescribers care	2
Has appointment to discuss therapy	4
Prescriber did not write prescription attributed to them	8
Tried to modify therapy, symptoms reoccurred	2
Prescribed medication while covering for other MD or in the ER	1
Response form returned blank	7
Total Responses	149

Prescriber Comments

The following statements are samples of comments received from providers via the response forms:

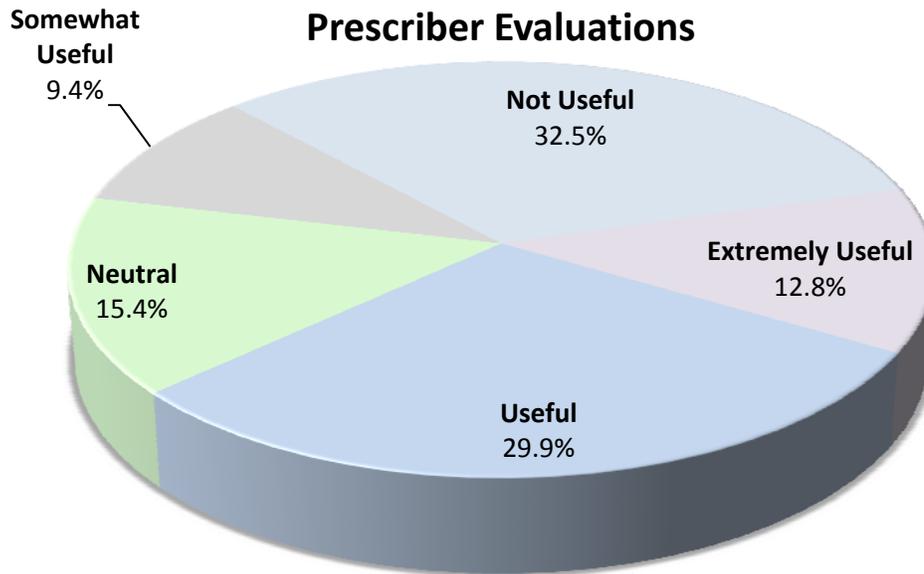
“Patient is probably no longer taking”

“Patient is no longer on Celexa”

“This has been discontinued”

Prescriber Feedback on Intervention Letters

In addition to being able to provide information about their course of action following receipt of the intervention letter, prescribers are also able to provide additional feedback on intervention letters. Out of the 149 coded responses received, 117 provided additional feedback. A total of 42.7% of feedback responses ranked the letters as 'Useful' or 'Extremely useful'. A chart showing the percentage of responses in each evaluation category is shown below:



Changes in Criteria Exceptions

A total of 692 beneficiaries were selected for intervention based on the criteria for psychotropics in kids. Six months after letters were mailed to prescribers, 560 of the original 692 beneficiaries had at least one claim for any drug and could be evaluated. Of those 560 beneficiaries, 355 (63.4%) were found to hit the same criteria in the follow up period, meaning they had the same therapy problem post-intervention that their prescriber received a letter regarding. **The remaining 205 beneficiaries (36.6%) were found to no longer have the same therapy problem that their prescriber received a letter regarding.**

Criteria	PRE- Intervention (June 2011)	POST-Intervention (December 2011)		
	Beneficiaries with Letter Mailed	Beneficiaries with Any Drug Claim	Beneficiaries with Same Criteria Exception	% Decrease in Criteria Exceptions
Therapeutic Appropriateness	692	560	355	36.6%
Totals	692	560	355	36.6%

Total Drug Utilization and Estimated Cost Avoidance in Targeted Population

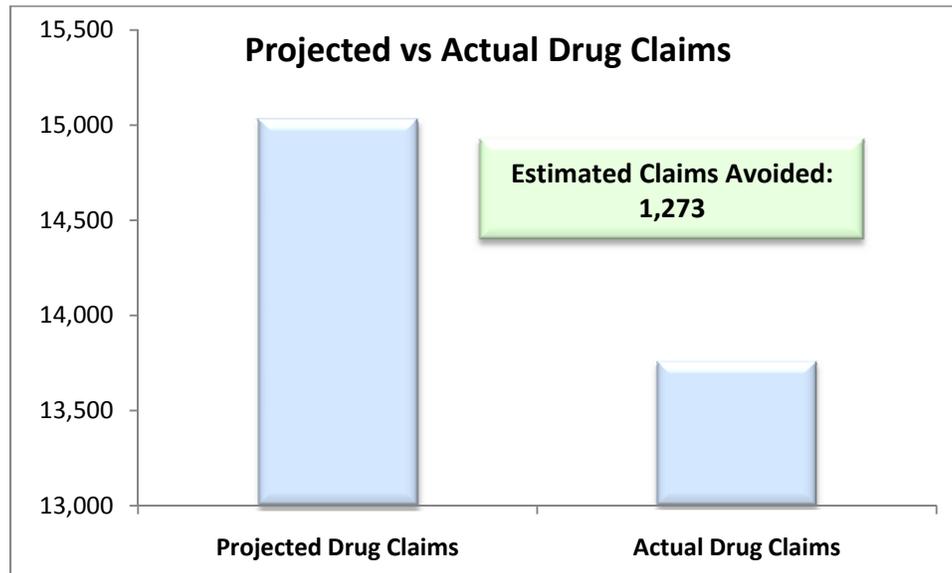
For the intervention and comparison group beneficiaries who had claims for any drug during the beginning of the pre-intervention and end of the post-intervention periods, HID evaluated total drug expenditures and claims for the 6 months prior to, and 6 months after, letters were mailed ³.

		Drug Expenditures	Drug Claims
Intervention Group	Pre-Intervention	\$1,779,500	13,973
	Post-Intervention	\$1,815,693	13,759
	Difference	\$18,192	-214
	% Change	1.002%	-1.555%
Comparison Group	Pre-Intervention	\$953,768	9,580
	Post-Intervention	\$1,095,148	10,379
	Difference	\$141,381	799
	% Change	12.910%	7.698%

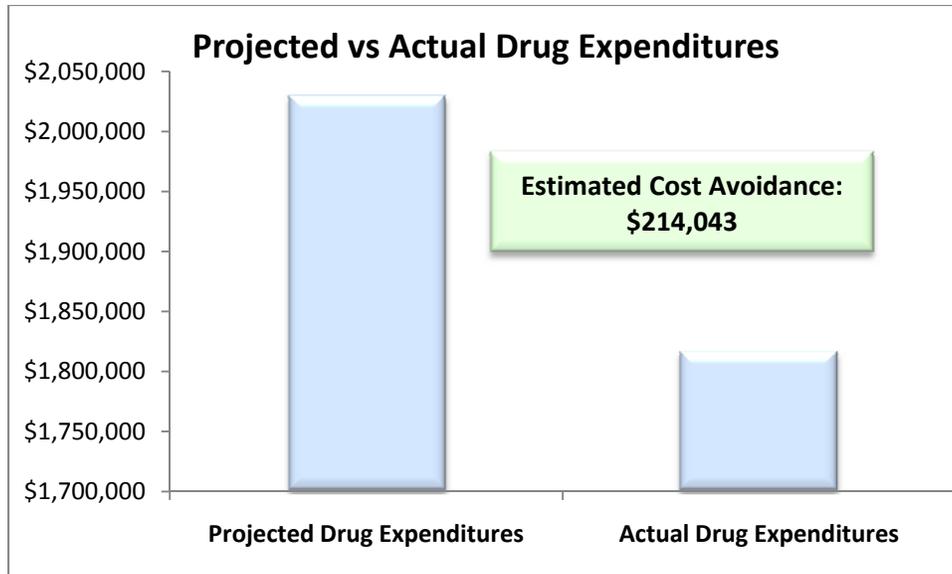
Intervention Group: 516 beneficiaries

Comparison Group: 369 beneficiaries

Projected Intervention Group Post-Intervention Cost:	\$2,029,735
Estimated Cost Avoidance:	\$214,043
Projected Intervention Group Post-Intervention Claims:	15,032
Estimated Claims Avoided:	1,273



³ Calculation amounts may vary slightly due to rounding



Results Discussion

Within the targeted beneficiary population, improvements in utilization were noted. Six months after intervention letters were mailed, a population of 560 patients had enough data available to evaluate. Of these patients, all of whom met criteria for psychotropic utilization in kids prior to the mailing of prescriber letters, 36.6% no longer met the same criteria 6 months after the letters were mailed.

All drug claims data and some diagnosis data is available for analysis. Any diagnosis data available is processed along with the pharmacy claims data to provide as complete a drug and diagnosis history as possible for each beneficiary. Medical data that includes the cost associated with hospitalization, doctor visits, and emergency room visits is not analyzed as part of the RetroDUR program. However, it is suspected by reducing psychotropic utilization in kids, other medical associated costs due to adverse drug reactions would be reduced in addition to the reduction in drug expenditures.

Conclusion

The prescribing and utilization of psychotropics in kids improved after intervention letters were mailed to prescribers for targeted beneficiaries. For beneficiaries with data available for follow up 6 months after letters were mailed, 36.6% of them no longer met the same criteria. Claims data for 6 months before and after intervention letters were mailed was evaluated and compared, showing a cost avoidance of drug expenditures of over \$214,000 in the 6-month time period following the mailing of the intervention letters.

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Prescribers were encouraged to return response forms to indicate their intended action following the receipt of the intervention letter and patient profile. The response rate was 21.3%, 149 response forms were returned indicating the prescribers intended action and 117 feedback forms were returned. Prescriber feedback showed 42.7% of the feedback responses ranked the intervention letters as 'Extremely Useful' or 'Useful'.