

Program Outcomes

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

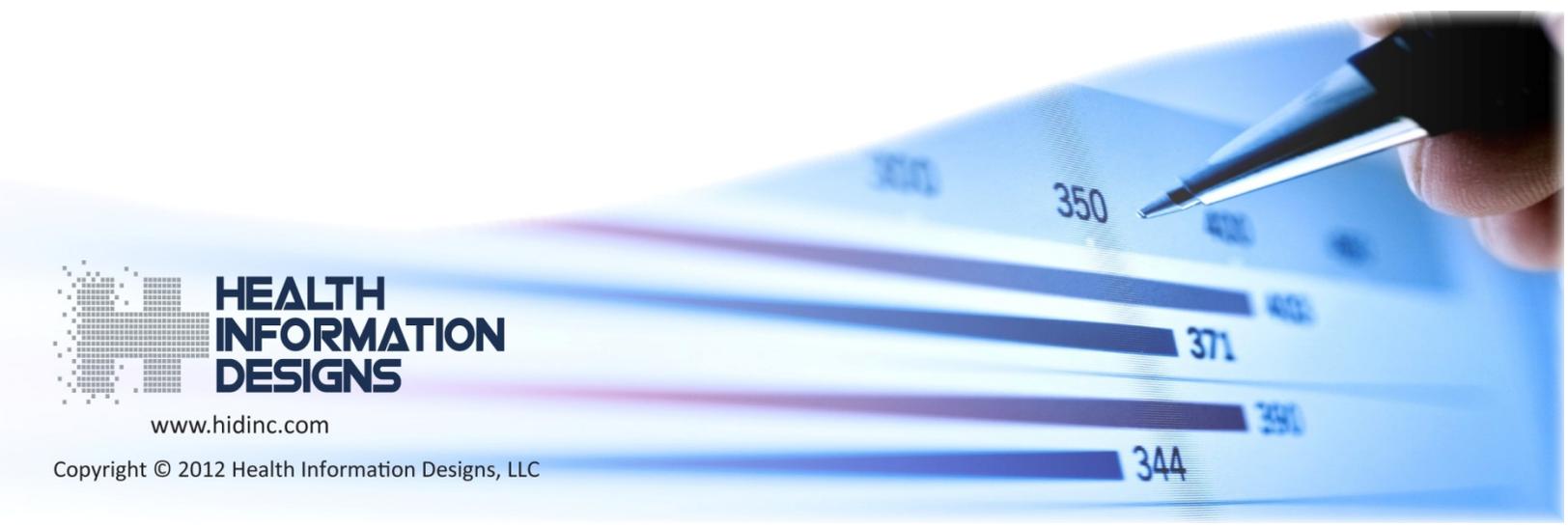
Kansas Medical Assistance Programs Retrospective Drug Utilization Review Provider Education and Intervention Program

Appropriate Narcotic Utilization Mailed February 2011

Prepared by Health Information Designs
March 2012



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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

In patients prescribed narcotic therapy there is a great risk for misuse and abuse, which can lead to increased health care costs due to overutilization and adverse drug reactions. In an effort to improve clinical outcomes and reduce drug expenditures as well as related health care costs, Kansas Medical Assistance Programs beneficiaries found to have inappropriate utilization or prescribing of narcotic agents were identified, and educational intervention letters were mailed to their prescribers in February 2011. The selected beneficiaries were then evaluated 6 months after the prescriber letters were mailed to determine the impact of the intervention letters.

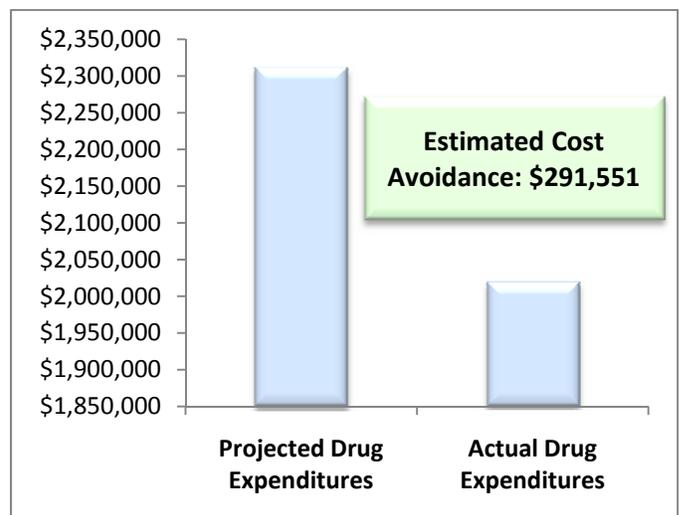
Changes in Criteria Exceptions

At the 6-month evaluation post intervention, appropriate utilization was significantly improved in the target population. Six months after letters were mailed to the prescriber, 441 of the original 533 beneficiaries had at least one claim for any drug and could be evaluated. **Of those remaining 441 beneficiaries, 62.8% of those who were previously using narcotic therapies inappropriately were no longer found to be using inappropriate narcotic therapy.** Based on improved narcotic utilization, it is clinically probable that serious adverse outcomes—such as drug overdose or other adverse side effects—were avoided, and overall drug utilization was significantly reduced.

PRE-Intervention (February 2011)	POST-Intervention (August 2011)		
Beneficiaries with Letter Mailed to Prescriber	Beneficiaries with Any Drug Claim	Beneficiaries with Same Criteria Exception	% Decrease in Criteria Exceptions
533	441	164	62.8%

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 2,019,613 compared to the projected cost of \$2,311,162, **an estimated cost avoidance of \$291,551 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.

Prescribing narcotic medications safely and appropriately is an ongoing challenge for prescribers. This is due to the variability in response to narcotics by patients, adverse drug reactions, and the potential for misuse or abuse of these medications.

The non-medical use or abuse of prescription drugs is a serious and growing public health problem, both in Kansas and across the country. According to the 2008-2009 National Survey on Drug Use and Health, 5.02% of Kansans aged 12 years and older used a prescription pain reliever for a non-medical use in the past year; this was up from 4.36% in 2002-2003¹. The abuse of certain prescription drugs—opioids, central nervous system (CNS) depressants, and stimulants—can alter the brain's activity and lead to addiction. While all of the reasons for the increase in abuse of prescription drugs are not understood, it is thought that easier accessibility is likely a contributing factor.

Beneficiary Identification and Prescriber Intervention

In an effort to promote appropriate prescribing and utilization of narcotics, HID identified beneficiaries with inappropriate narcotic utilization and mailed educational letters to their prescribers. When more than one prescriber was attributed to narcotic 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 help to reduce the availability of inappropriate narcotic medications.

While the intervention letter itself only addressed inappropriate narcotic utilization, 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 diagnoses 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.

¹ Substance Abuse and Mental Health Services Administration, *State Estimates of Substance Use and Mental Disorders from the 2008-2009 National Surveys on Drug Use and Health*, NSDUH Series H-40, HHS Publication No. (SMA) 11-4641. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011.

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 February 2011.

Overuse Precautions:

- Overutilization of all narcotic agents, excluding patients with cancer or HIV/AIDS, as these patients may require higher doses than normal for adequate pain control
- Overutilization of oxycodone extended-release products, excluding patients with cancer or HIV/AIDS, as these patients may require higher doses than normal for adequate pain control
- Long-term therapy with a short-acting opioid pain reliever in the absence of any long-acting analgesic

High Dose Alerts:

- High doses of transdermal fentanyl, based upon dosing interval

Drug-Drug Interactions:

- Therapeutic duplication of long-acting opioid analgesics

Beneficiary Selection

A total of 714 beneficiaries met the criteria for inappropriate narcotic utilization. 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 dose change from the same prescriber
- A recent change to narcotic 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
714	540	533	596	8	588

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 February 2011, the 6-month follow up was performed in August 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 August 2011. Following that, HID determined who still met the same criteria for inappropriate narcotic utilization in August 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 February 2011, HID determined the total drug expenditures for September 2010 – February 2011 (pre-intervention period) and March 2011 – August 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 (September 2010) and the month at the end of the post-intervention period (August 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 of 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. One factor that could possibly have changed the prescribing and utilization trends of narcotics was the implementation of the Kansas Prescription Drug Monitoring Program, K-TRACS, in April 2011.

Results

Prescriber Responses to Intervention Letters

A total of 201 coded responses were received from prescribers who were sent an intervention letter, for a response rate of 34.2%. Out of the 201 coded responses, there were 22 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	6
Prescriber unaware of other prescribers	4
Beneficiary no longer under this prescribers care	14
Reviewed information and continuing therapy without change	78
Prescriber will modify drug therapy	23
Tried to modify drug therapy, beneficiary is non-cooperative	16
Beneficiary has not been seen recently	4
Beneficiary recently deceased	3
Beneficiary was never under prescribers care	2
Has appointment to discuss therapy	29
Prescriber did not write prescription attributed to them	1
Tried to modify therapy, symptoms reoccurred	8
Prescribed medication while covering for other MD or in the ER	2
Response form returned blank	11

Total Responses

201

Prescriber Comments

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

“Current regimen is appropriate for the time being”

“Patient is being tapered”

“Patient is being monitored closely”

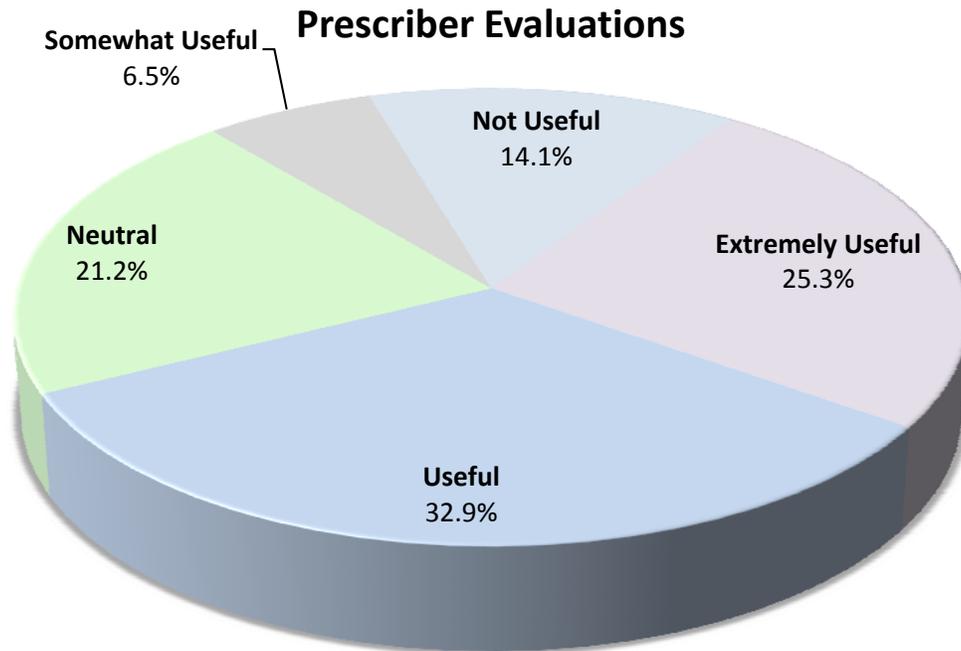
“Patient is now on fentanyl patch for chronic pain”

“Patient refused to change to recommended medications. Patient also stated that if insurance will not cover medication, they will pay for the medications out of pocket”

“Patient has been dismissed from our practice”

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 201 coded responses received, 170 provided additional feedback. A total of 58.2% 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 533 beneficiaries were selected for intervention based on the criteria for inappropriate narcotic utilization. Six months after letters were mailed to the prescriber, 441 of the original 533 beneficiaries had at least one claim for any drug and could be evaluated. Of those 441 beneficiaries, 164 (37.2%) 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 277 beneficiaries (62.8%) were found to no longer have the same therapy problem that their prescriber received a letter regarding.**

Criteria	PRE-Intervention (February 2011)	POST-Intervention (August 2011)		
	Beneficiaries with Letter Mailed	Beneficiaries with Any Drug Claim	Beneficiaries with Same Criteria Exception	% Decrease in Criteria Exceptions
Overuse Precaution	466	385	141	63.4%
High Dose Alert	2	1	0	100.0%
Drug-Drug Interactions	65	55	23	58.2%
Totals	533	441	164	62.8%

Total Drug Utilization and Estimated Cost Avoidance in Targeted Population

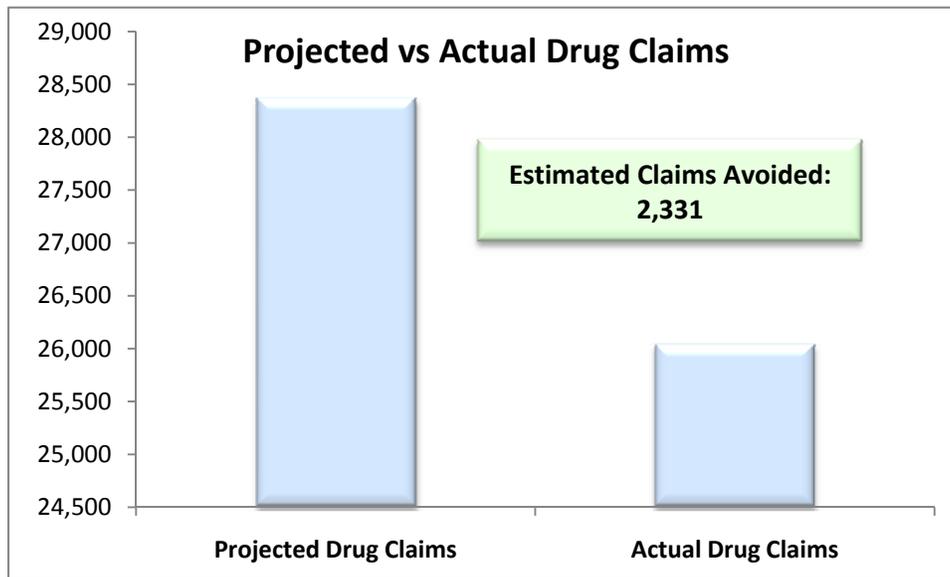
For the intervention and comparison group beneficiaries who had claims for any drug during the beginning of the pre-intervention and end of the post-intervention periods, HID evaluated total drug expenditures and claims for the 6 months prior to, and 6 months after, letters were mailed ².

		Drug Expenditures	Drug Claims
Intervention Group	Pre-Intervention	\$2,038,324	26,670
	Post-Intervention	\$2,019,611	26,035
	Difference	-\$18,713	-635
	% Change	-0.927%	-2.439%
Comparison Group	Pre-Intervention	\$1,963,060	22,909
	Post-Intervention	\$2,266,209	24,505
	Difference	\$303,149	1,596
	% Change	13.377%	6.513%

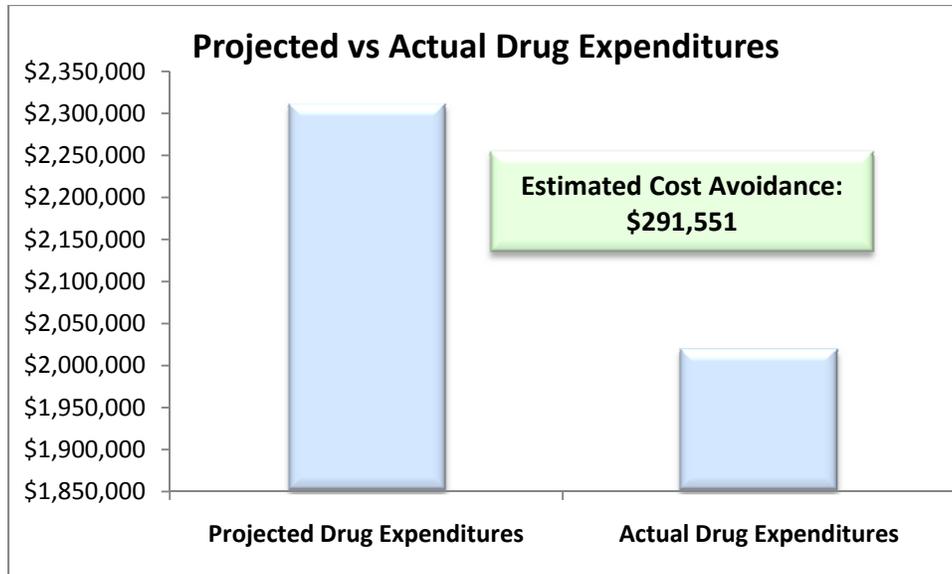
Intervention Group: 436 beneficiaries

Comparison Group: 418 beneficiaries

Projected Intervention Group Post-Intervention Cost:	\$2,311,162
Estimated Cost Avoidance:	\$291,551
Projected Intervention Group Post-Intervention Claims:	28,366
Estimated Claims Avoided:	2,331



² Calculation amounts may vary slightly due to rounding



Results Discussion

Within the targeted beneficiary population, improvements in narcotics utilization were noted. Six months after intervention letters were mailed, a population of 441 patients had enough data available to evaluate. Of these patients, all of whom met criteria for inappropriate narcotic utilization prior to the mailing of prescriber letters, 62.8% 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 inappropriate narcotic utilization, 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 narcotic agents 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, 62.8% 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 \$290,000 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 34.2%, 201 response forms were returned indicating the prescribers intended action and 170 feedback forms were returned. Prescriber feedback showed 58.2% of the feedback responses ranked the intervention letters as 'Extremely Useful' or 'Useful'.