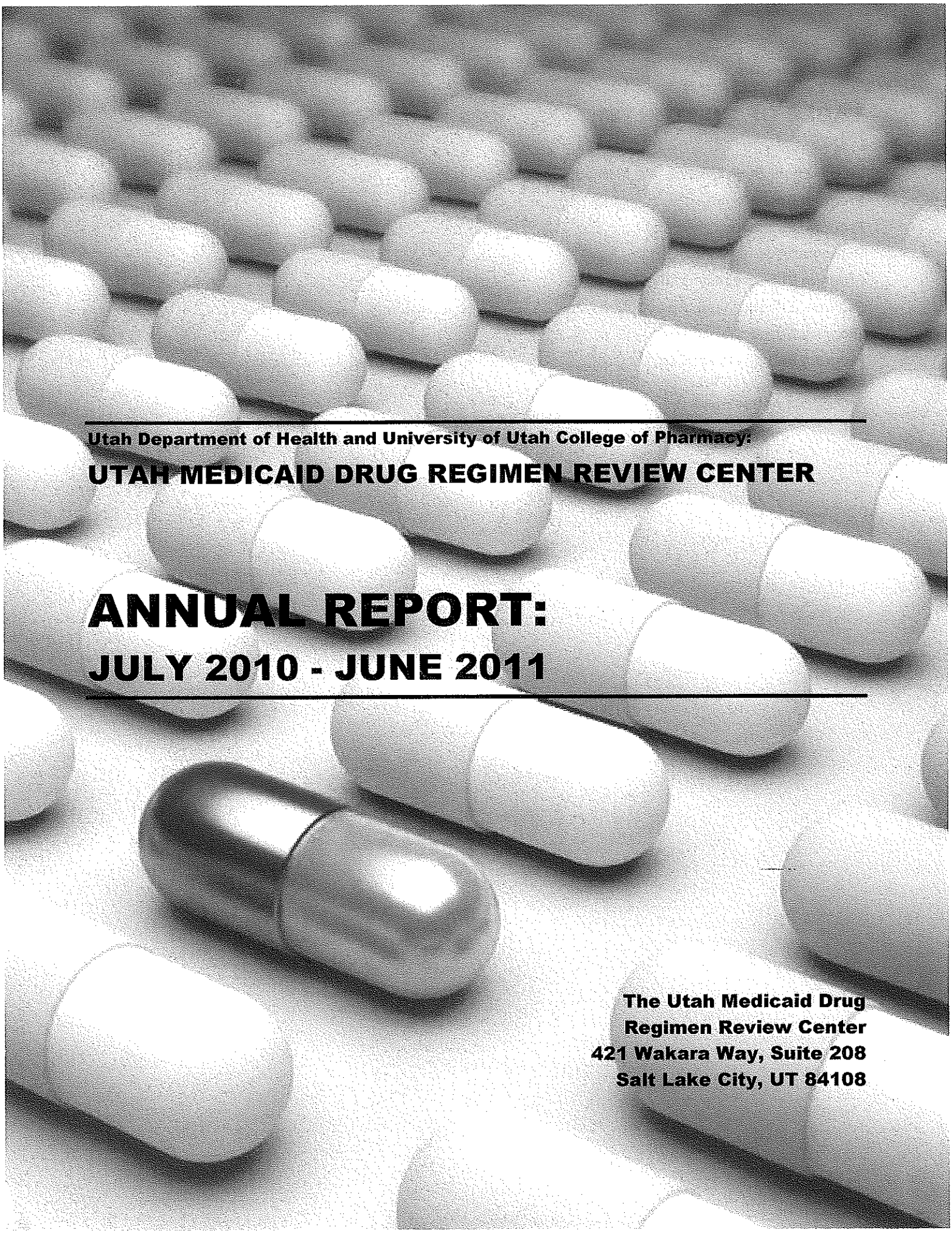

Utah Department of Health and University of Utah College of Pharmacy:

UTAH MEDICAID DRUG REGIMEN REVIEW CENTER

ANNUAL REPORT:

JULY 2010 - JUNE 2011

The Utah Medicaid Drug
Regimen Review Center
421 Wakara Way, Suite 208
Salt Lake City, UT 84108

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INTRODUCTION

The College of Pharmacy at the University of Utah began operating its Drug Regimen Review Center (DRRC) in May 2002 to fulfill the terms of a contract with the Utah State Department of Health. The contract supports the Utah Medicaid prescription drug program and its drug utilization review process. The emphasis of the program is to improve drug use in Medicaid patients, reduce the number of prescriptions and drug costs in high utilizers of the Medicaid drug program, and educate the medical professionals who prescribe to high utilizers of the program.

Each month, a group of patients is selected for review by a team of clinically trained pharmacists. These reviews result in recommendations made to prescribers, which are described later in this report. Recommendations are sent, primarily via fax, to all prescribers of medications related to identified drug therapy problems, and include a list of drugs dispensed during the month of review. The DRRC also provides information and consultation by telephone with prescribers and pharmacists.

STAFF

The DRRC utilizes a staff of professionals to run the program including:

Pharmacists
Melissa Archer, Pharm.D.
Joanne LaFleur, Pharm.D., MSPH
Bryan Larson, Pharm.D., BCPS
CarrieAnn Madden, Pharm.D., BCPS
Gary M. Oderda, Pharm.D., MPH
Carin Steinvoort, Pharm.D.

Data Management
Lisa Angelos
Yvonne Nkwen-Tamo
Brian Oberg, MBA
David Servatius
Ruby Talataina

MISSION

The two primary missions of the DRRC are:

1) to review the drug therapy of Medicaid patients who are high utilizers of the Medicaid prescription drug program, or who are otherwise determined to be at high risk for drug related problems and high medical costs, and to work with the individual prescribers to provide the safest and highest quality pharmacotherapy at the lowest cost possible, and
2) to support the Utah Medicaid Drug Utilization Review (DUR) Board and P&T Committee by researching and reviewing targeted drug classes and individual agents.

Table 1 summarizes the research done for both DUR Board presentations and P&T Committee reports between July 2010 and June 2011.

Table 1 – Drug Utilization Review (DUR) Board Presentations and P&T Committee Reports Produced by the Drug Regimen Review Center

DUR Board Presentations	P&T Committee Reports
• Follow-On Drugs: Combination Products	• Prostaglandin Eyedrop and Alpha Adrenergic Eyedrop Drug Class Review
• Follow-On Drugs: Grandfathered	• Nasal Antihistamine and Ocular Antihistamine Drug Class Review
• Follow-On Drugs: Isomers	• Statin and Statin Combination Update and Drug Class Review
• Dabigatran	• Hormonal Contraceptive Drug Class Review
• High-Dose Metformin	• Alpha-1 Blocker and 5 Alpha-Reductase Inhibitor Drug Class Review

• Oral Multiple Sclerosis Srugs	• Oral Hormone Replacement Therapy Drug Class Review
• Dronedarone	• Topical/Local Hormone Replacement Therapy Drug Class Review
	• Oral/Systemic Antifungal Agent Drug Class Review

REVIEW METHODOLOGY

From the program's inception in 2002 through October 2008, the criteria for patient selection for review was relatively simple and straightforward. Patients who exceeded seven prescriptions per month were ranked by the number of prescriptions they received in that month, and the top 300 were selected after excluding children and patients who had been reviewed in the previous 12 months.

Beginning with December 2008 prescription fills, the criteria for patient selection was modified. Since that time, three different mechanisms of selection have been used to select approximately 150 total patients for review each month:

Prescription Drug Counts

An average 50 patients per month are selected on the basis of the number of prescriptions per month. This is the same mechanism that had been used in the past. In each month, patients who received any prescription are ranked according to the number of prescriptions they received in that month, and those with the highest number of prescriptions who had not been reviewed in the previous 12 months are selected.

RxRisk® Comorbidity Scores

An average 50 patients per month are selected on the basis of RxRisk® comorbidity scores. RxRisk® is an instrument used for risk adjustment based on degree of comorbidity. It is based on prescriptions filled by patients in the entire 1-year period prior to the month of the review. The RxRisk® comorbidity scale is validated to identify patients at risk of having high medical expenditures in the subsequent year.

RxRisk® Chronic Diseases

An average 50 patients per month are selected on the basis of the sum of chronic diseases they had, according to the RxRisk® comorbidity scale. Patients are ranked according to the number of comorbid conditions they had, and those with the highest count who had not been reviewed in the previous 12 months were selected.

Beginning with January 2011 prescription fills, the criteria for patient selection was modified once again. The RxRisk® Chronic Diseases mechanism was eliminated, and an average 50 patients per month have been selected since that time using a variable rule, created by the team of pharmacists, designed to target and address specific and prevalent problems seen in the general population.

Table 2 summarizes the variable rules that have been used each month.

Table 2 – Variable Criteria Used For Patient Selection Between January 2011 and June 2011

JAN 11

DEFINITION	Patients who received a minimum of 3 fills for a thiazolidinedione with no fills for metformin within the most recent 4-month period.
PURPOSE	To identify all patients who are receiving regular treatment with a thiazolidinedione without receiving metformin. Because of the cardiovascular risks associated with using thiazolidinediones, and the superior therapeutic effects of metformin, it is not recommended to use them for initial therapy.
PROCESS	Identify patients who received a thiazolidinedione in the month of review. Thiazolidinediones include pioglitazone and rosiglitazone. Pull a total of 4 months of prescription fill data for each patient. Flag patients who received 3 or more fills for a thiazolidinedione and no fills for metformin.

FEB 11

DEFINITION	Patients who have diabetes as indicated by a diabetes prescription in the month of the review and who did not receive a statin in the most recent 3 months.
PURPOSE	To identify all diabetes patients age 40 and older who are not receiving regular treatment with a statin. Statins are recommended in all patients with diabetes and an additional cardiovascular risk factor who are age 40 and older per the American Diabetes Association (ADA) guidelines.
PROCESS	Identify all patients who received a prescription for a diabetes medication in the month of the review. Diabetes medications include acarbose, miglitol, pramlintide, metformin, saxagliptin, sitagliptin, exenatide, liraglutide, insulin, nateglinide, repaglinide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide, pioglitazone, and rosiglitazone. Flag the subset who did not receive a statin in the most recent 3 months. Statins include lovastatin, simvastatin, pravastatin, rosuvastatin, fluvastatin, atorvastatin, and pitavastatin

MAR 11

DEFINITION	Patients who have diabetes as indicated by a diabetes prescription in the month of the review, are age 40 or older, and who did not receive a statin in the most recent 6 months.
PURPOSE	To identify all diabetes patients age 40 and older who are not receiving regular treatment with a statin. Statins are recommended in all patients with diabetes and an additional cardiovascular risk factor who are age 40 and older per the American Diabetes Association (ADA) guidelines.
PROCESS	Identify all patients age 40 or older who received a prescription for a diabetes medication in the month of the review. Diabetes medications have at least one of the following as part or all of the generic drug name: acarbose, miglitol, pramlintide, metformin, saxagliptin, sitagliptin, exenatide, liraglutide, insulin, nateglinide, repaglinide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide, pioglitazone, and rosiglitazone. Flag the subset who did not receive a statin in the most recent 6 months. Statins have one of the following as part or all of the generic drug name: lovastatin, simvastatin, pravastatin, rosuvastatin, fluvastatin, atorvastatin, and pitavastatin.

APR 11

DEFINITION	Patients who have diabetes as indicated by a diabetes prescription in the month of the review, are age 40 or older, and who did not receive a statin in the most recent 6 months.
PURPOSE	To identify all diabetes patients age 40 and older who are not receiving regular treatment with a statin. Statins are recommended in all patients with diabetes and an additional cardiovascular risk factor who are age 40 and older per the American Diabetes Association (ADA) guidelines.
PROCESS	Identify all patients age 40 or older who received a prescription for a diabetes medication in the month of the review. Diabetes medications have at least one of the following as part or all of the generic drug name: acarbose, miglitol, pramlintide, metformin, saxagliptin, sitagliptin, exenatide, liraglutide, insulin, nateglinide, repaglinide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide, pioglitazone, and rosiglitazone. Flag the subset who did not receive a statin in the most recent 6 months. Statins have one of the following as part or all of the generic drug name: lovastatin, simvastatin, pravastatin, rosuvastatin, fluvastatin, atorvastatin, and pitavastatin.

MAY 11

DEFINITION	Patients who received prescriptions for Lexapro, Invega, Vyvanse or Pristiq in the month of review without having tried citalopram, risperidone, or venlafaxine, respectively, in the prior 12 months.
PURPOSE	To identify all patients who are receiving brand-name prescriptions for psychiatric medications for which similar molecules are available as a generic, without having received prior treatment with the generic similar molecule.
PROCESS	Identify patients who received a prescription for Lexapro®, Invega®, Vyvanse®, or Pristiq® in the month of the review. Pull a total of 12 months of prescription fill data for each patient. Sort on fill date/time. Flag all patients who received Lexapro in the review month with no citalopram in the prior 12 months, all patients who received Invega in the review month with no risperidone in the prior 12 months, all patients who received Vyvanse in the review month with no dextroamphetamine in the prior 12 months, and all patients who received Pristiq in the review month with no venlafaxine in the prior 12 months.

JUN 11

DEFINITION	Patients who were continuously eligible for benefits during the prior 12 months, and who received prescriptions for Lexapro, Invega, Vyvanse or Pristiq in the month of review without having tried citalopram, risperidone, or venlafaxine, respectively, in the prior 12 months.
PURPOSE	To identify all patients who are receiving brand-name prescriptions for psychiatric medications for which similar molecules are available as a generic, without having received prior treatment with the generic similar molecule.
PROCESS	Identify patients who received a prescription for Lexapro®, Invega®, Vyvanse®, or Pristiq® in the month of the review. Pull a total of 12 months of prescription fill data for each patient. Sort on fill date/time. Flag all patients who received Lexapro in the review month with no citalopram in the prior 12 months, all patients who received Invega in the review month with no risperidone in the prior 12 months, all patients who received Vyvanse in the review month with no dextroamphetamine in the prior 12 months, and all patients who received Pristiq in the review month with no venlafaxine in the prior 12 months. Exclude patients without 12 months of continuous eligibility.

The patients selected using the variable criteria each month are schedule to undergo a six month re-evaluation to determine if the targeted drug related problems are still prevalent.

To date, using all methods of patient selection, the Drug Regimen Review Center has mailed or faxed 48,304 reports to 13,762 different prescribers, with recommendations concerning 16,386 Medicaid patients.

PROGRAM BACKGROUND

Utah Medicaid drug claim costs had been increasing dramatically during the first half of the past decade. The total increase in these costs from January 2002 to January 2006, when the Medicare Part D prescription drug benefit went into effect, had been approximately 75.8%. In January 2006 these costs dropped sharply, but have been creeping upward again since that time. The latest reporting period shows the sharpest increase yet in drug costs since Part D went into effect.

Recently, the total number of claims increased from 191,938 to 218,373 per month (13.77%) during the period from July 2010 to June 2011. Drug costs also increased from $12,903,013 to $14,975,434 per month (16.06%) during this same period.

Figures 1 and 2 show the total number of Medicaid pharmacy claims and the total cost of these claims for each month during the reporting period from July 2010 to June 2011, and Figure 3 shows the trend in total drug claim costs during the entire project period from January 2002 to June 2011.

Figure 1 – Total Medicaid Drug Claims by Month from July 2010 to June 2011

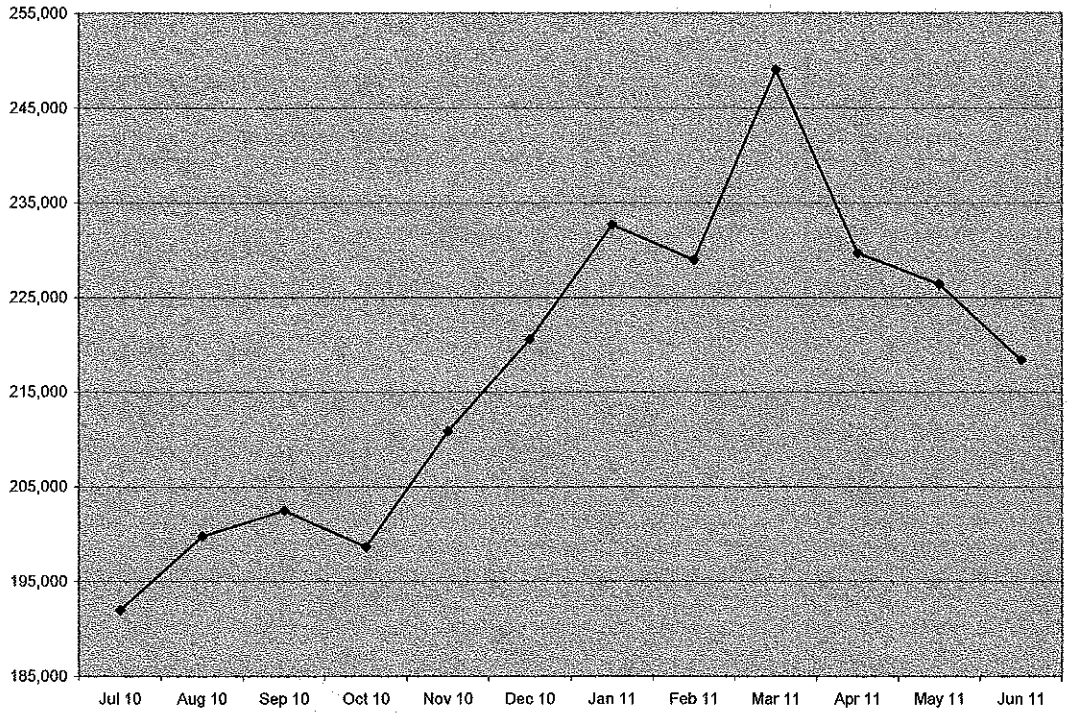


Figure 2 – Total Medicaid Drug Claim Costs by Month from July 2010 to June 2011

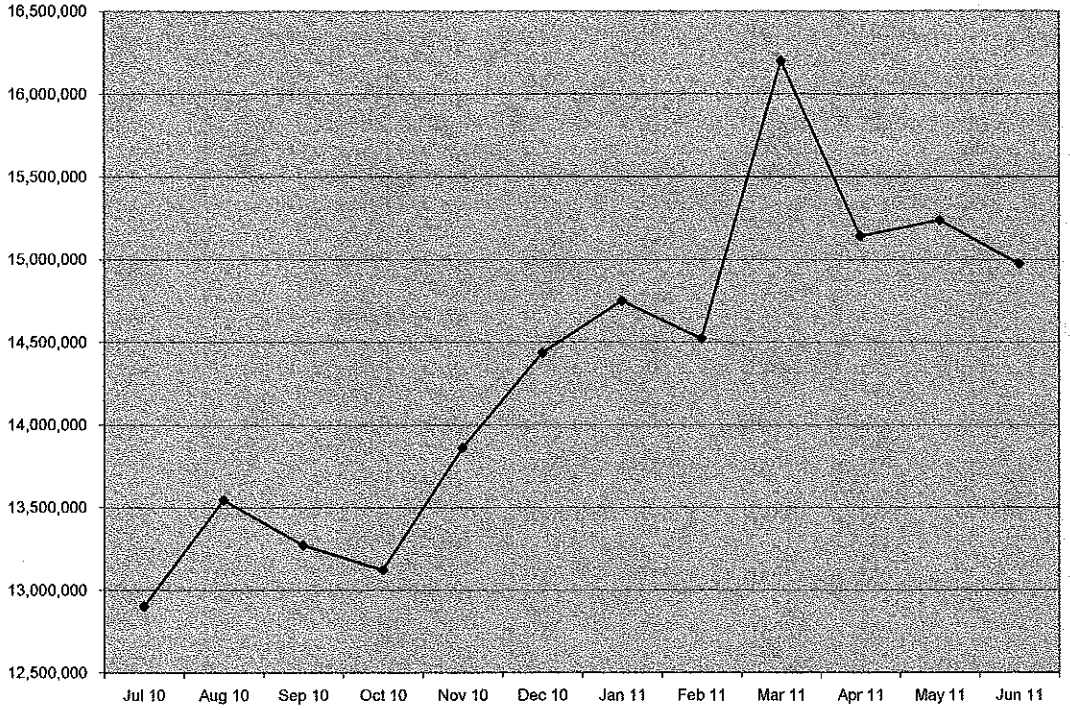
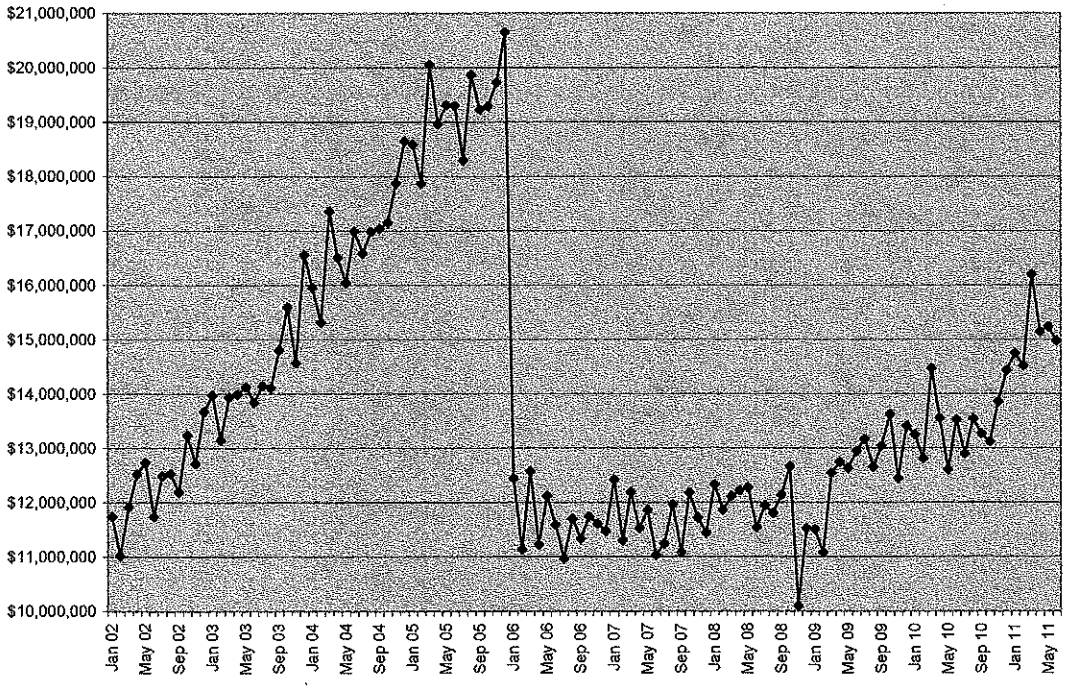


Figure 3 – Total Medicaid Drug Program Costs from January 2002 to June 2011



Increases in total drug spend during the past four fiscal years have been 2.6% (July 2007 to June 2008), 8.4% (July 2008 to June 2009), 2.7% (July 2009 to June 2010) and, recently, 16.1% (July 2010 to June 2011). Several factors are responsible for increased costs, including an increase in Medicaid enrollment.

PROGRAM SUMMARY

Figure 4 summarizes the drug related problems identified in the letters sent to prescribers between July 2010 and June 2011.

Figure 4 –Recommendations Sent to Prescribers from July 2010 to June 2011

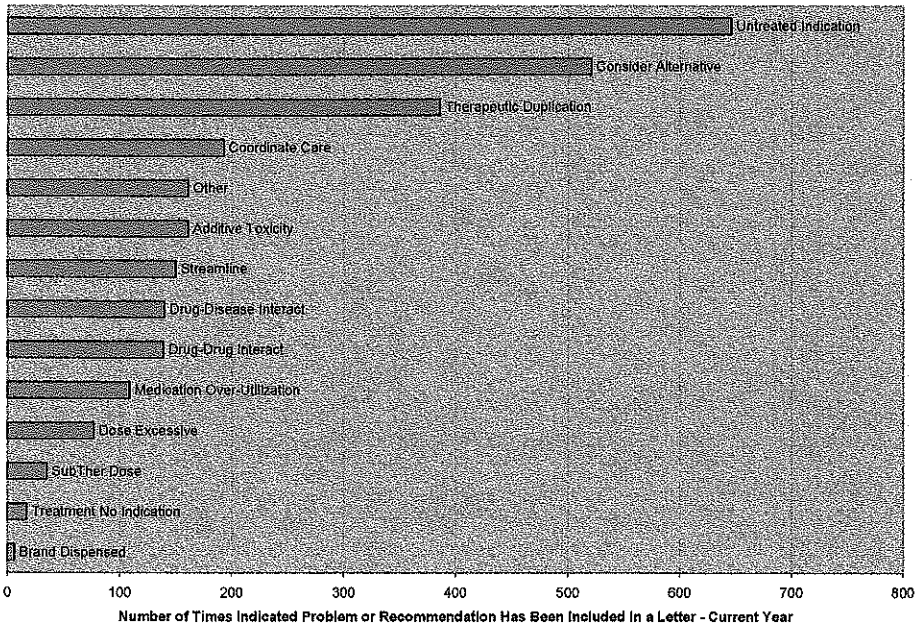
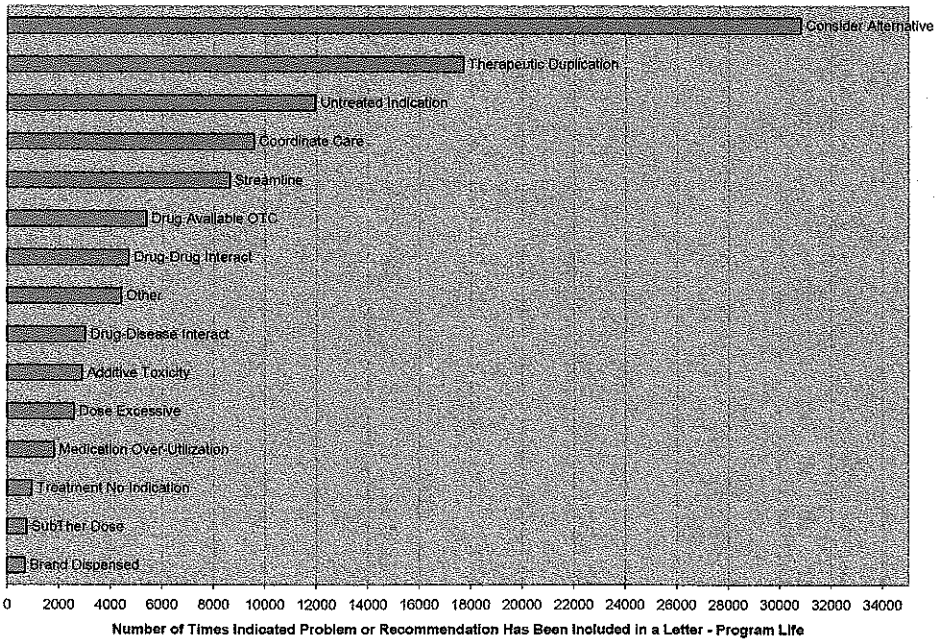


Figure 5 summarizes the drug related problems identified in the letters that have been sent to prescribers since the inception of the program in May 2002.

Figure 5 – Types of Drug Related Problems and Recommendations in All Letters Sent to Prescribers



Recommendation categories outlined above are self-explanatory, although the top categories do deserve further description.

The most common recommendation made to prescribers since the beginning or the program has been to consider alternative therapy. This recommendation would have been made for a number of reasons, including considering a less costly alternative.

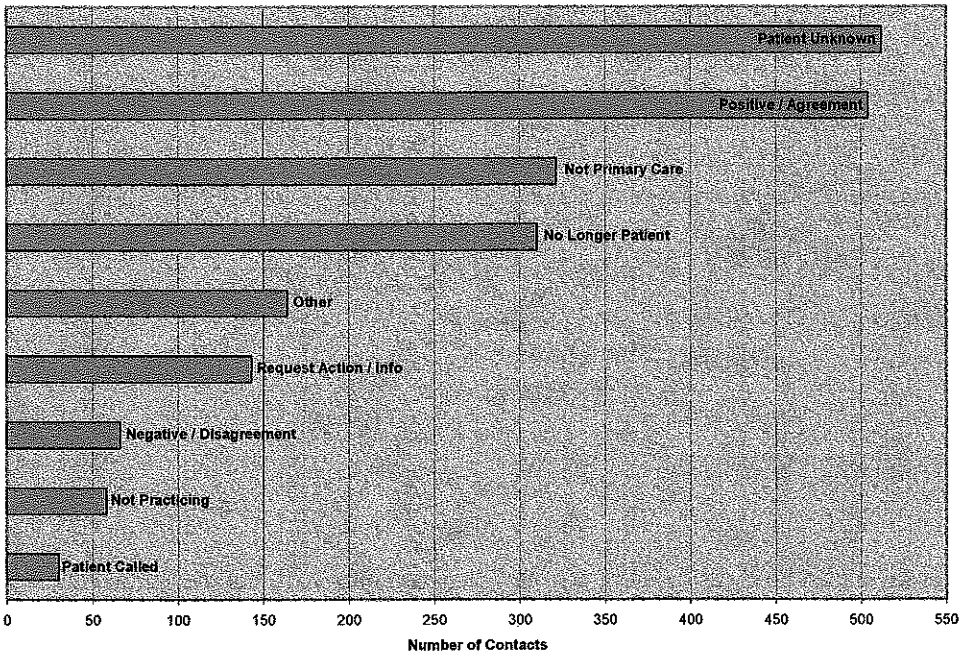
The most common drug therapy problem identified in the current reporting year was an untreated indication, or the absence of a medication that appeared to be needed based on usual best practice or guidelines

Therapeutic duplication recommendations were made when the patient was taking multiple therapeutic agents for the same indication when there was generally no reason to include therapy with more than one agent, and coordinate care relates to situations where multiple prescribers were ordering therapy for what appeared to be the same illness.

Streamline therapy refers to considering changes in therapy to eliminate some of the drugs dispensed or to decrease the number of doses, where appropriate.

Figure 6 summarizes the responses of the 2,108 individuals who have contacted the DRRC after receiving an intervention letter since the program's inception in May 2002.

Figure 6 – Summary of All Responses to Letters Received



We have received a variety of comments from the prescribers, including both agreement with recommendations and some disagreement. We have also encountered some administrative problems such as pharmacy input errors, incorrect addresses on file, and patients not being treated by the prescriber identified. As a result of verification procedures we have implemented, the incidence of these types of problems has gone down dramatically since the beginning of the program.

In September 2009, we began to include an anonymous opinion survey with our reviews that prescribers could fax back to let us know how we were doing. When the survey period ended in March 2011, almost all of the prescribers who responded indicated that they had read the information we provided, a majority included our comments in their patient's chart, and ratings of our reviews were above average overall.

Table 3 – Summary of Survey Responses

TOTAL SURVEYS:	**285**	
I read and reviewed the accompanying drug list:	206	95.14%
I put the review(s) into the patient's chart:	144	67.03%
I discussed information from the review(s) with the patient:	65	24.32%
I learned information about other drugs the patient was taking:	128	58.38%
I learned information about drug costs for the patient(s):	136	68.11%
I made changes in drug therapy based on the review(s):	49	26.49%
On average, how much time did you spend reading each review and acting on it?		
Minimum Reported:	1.00	
Maximum Reported:	47.00	
Average Reported:	7.67	
Recommendations: Average Rating	3.09	1 TO 5
List of Drugs: Average Rating	3.46	1 TO 5
Identification of Other Prescribers: Average Rating	3.98	1 TO 5
Cost Information: Average Rating	3.64	1 TO 5
Timeliness of Information: Average Rating	2.97	1 TO 5
Will the recommendations in this review influence future prescribing habits?		
Average Rating	3.38	1 TO 5

DEMOGRAPHICS

Patients were selected for review based on three different criteria – between July 2010 and December 2010, the criteria were risk score, risk sum and total number of fills. Table 4 summarizes the patients selected each month by each of these three criteria.

The first column shows the total number of patients selected for review by all three methods for the month. The total of 909 is less than the total of each of the selection methods because some patients fell under selection criteria for more than one of the methods.

The next six columns show, for each of the three selection methods – risk score, risk sum and total number of fills:

a. the threshhold set for the month at which a patient qualified for review, and
b. the number of patients who exceeded the threshold during the month and were selected for review.

The variability seen each month in the number of patients reviewed occurs primarily because the criteria for selection are set at a specific threshold each month and *all* patients who exceed that threshold are reviewed.

Table 4 – Patient Selection Between July 2010 and December 2010

	Total	Score Value	Rx Risk® Score	Sum Value	Rx Risk® Sum	Fill Value	Fill Count
Jul 10	**154**	20	73	16	55	12	52
Aug 10	**171**	20	69	15	80	12	42
Sep 10	**129**	20	58	15	45	12	45
Oct 10	**146**	20	58	15	72	12	41
Nov 10	**155**	19	91	15	55	12	24
Dec 10	**154**	21	59	15	49	12	62
TOTAL	**909**		**408**		**356**		**266**

Between January 2011 and June 2011, the criteria were adjusted to include risk score, total number of fills and a variable rule used each month to target commonly recurring drug therapy issues seen in the general Medicaid population. These rules were described in detail in Table 1 above.

Table 5 summarizes the patients selected each month by each of these three criteria.

Table 5 – Patient Selection Between January 2011 and June 2011

	Total	Fill Value	Fill Count	Score Value	Rx Risk® Score	Variable Rule
Jan 11	**167**	21	42	15	69	59
Feb 11	**143**	22	52	18	25	77
Mar 11	**149**	20	45	16	70	45
Apr 11	**135**	18	74	17	45	24
May 11	**169**	19	46	16	61	66
Jun 11	**176**	19	59	16	59	68
TOTAL	**939**		**318**		**329**	**339**

The 1,845 patients reviewed from July 2010 to June 2011 were separated into cohorts based on the month they were reviewed. Figures 7a, 7b and 7c summarize and categorize the number of patients reviewed each month during this period. The average was 154 patients reviewed per month.

Figure 7a – Summary of Patients Reviewed Each Month from July 2010 to June 2011

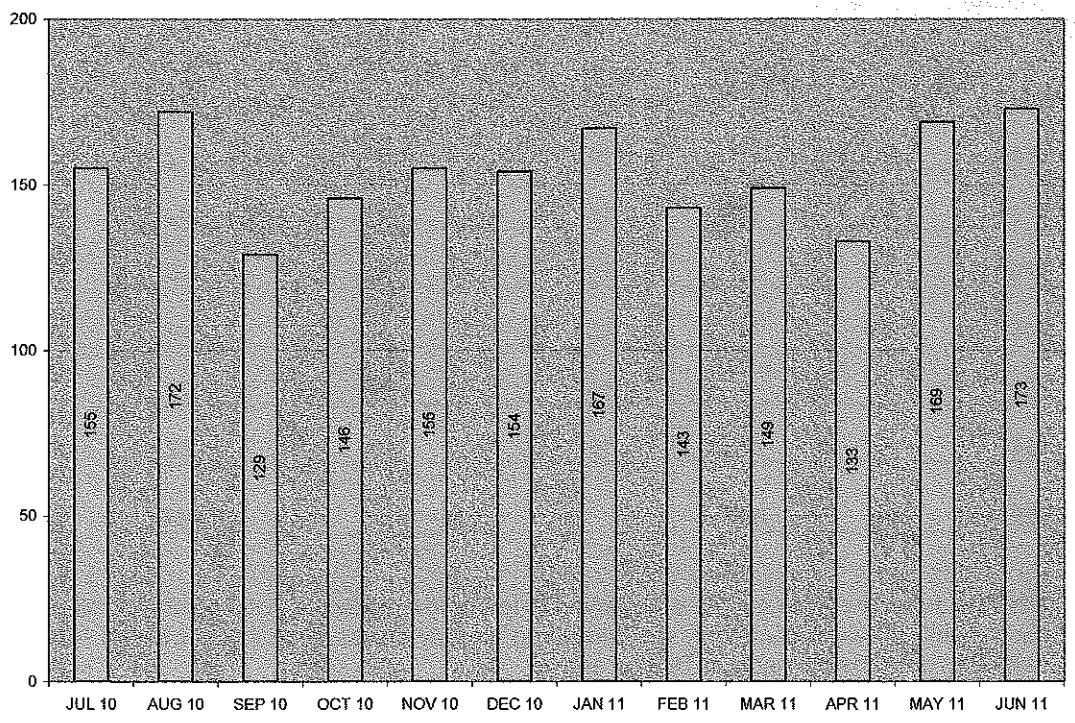


Figure 7b – Patients Reviewed by Selection Method Between July 2010 and December 2010

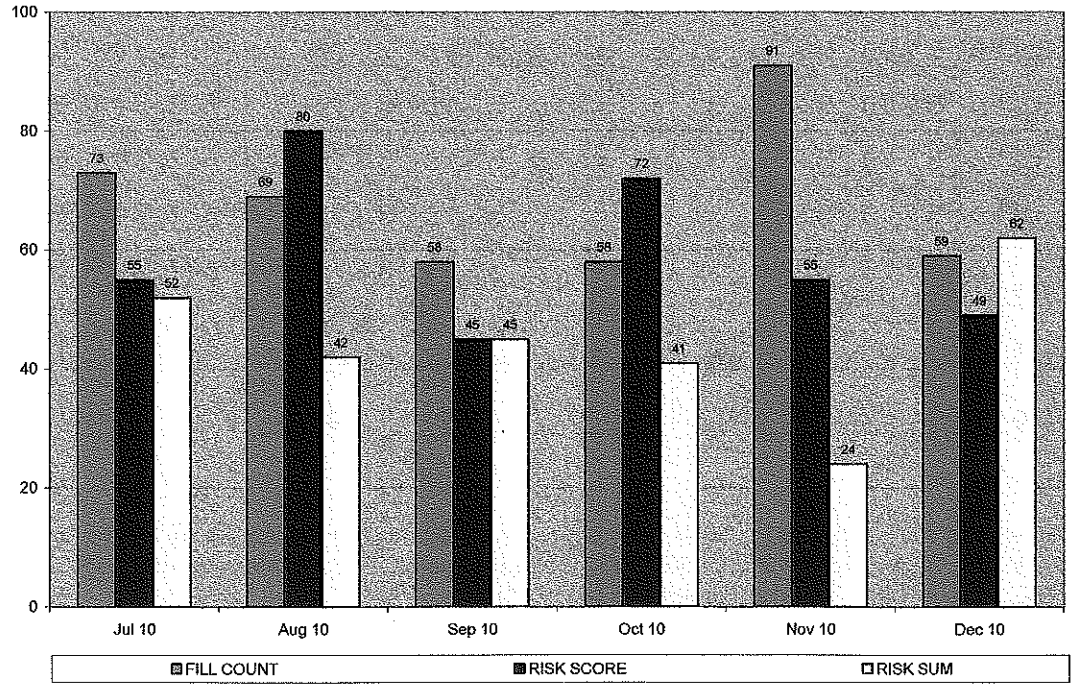
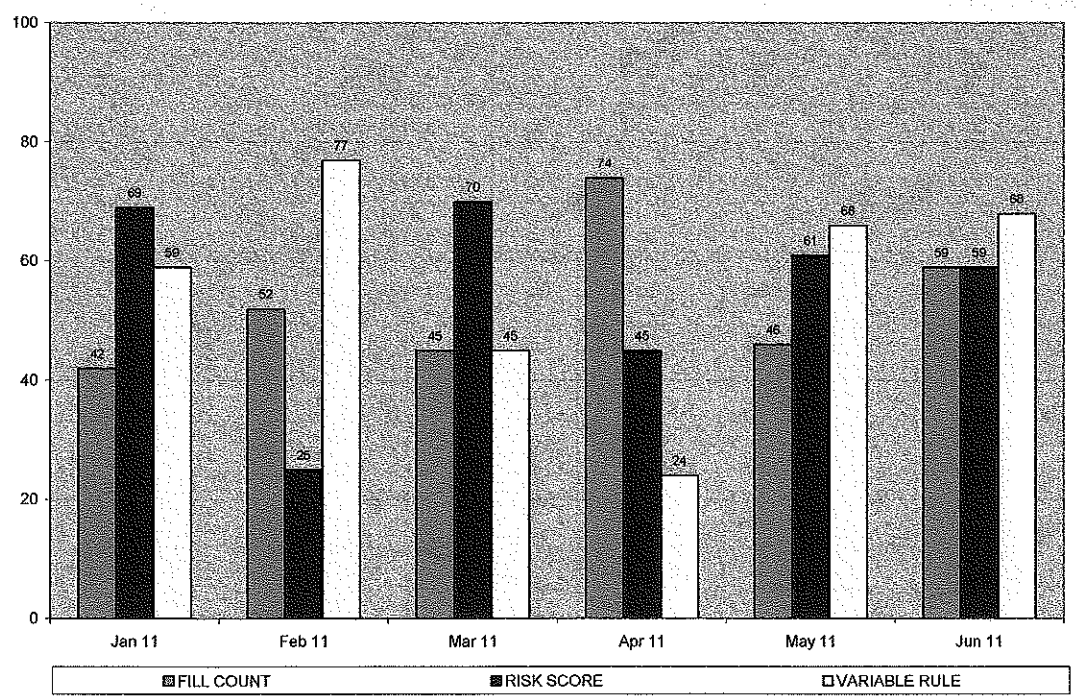


Figure 7c – Patients Reviewed by Selection Method Between January 2011 and June 2011



Demographics for all review cohorts are displayed in Table 6 and include gender, average age, and the average number of prescriptions dispensed. Nursing home patients are not included in these tables.

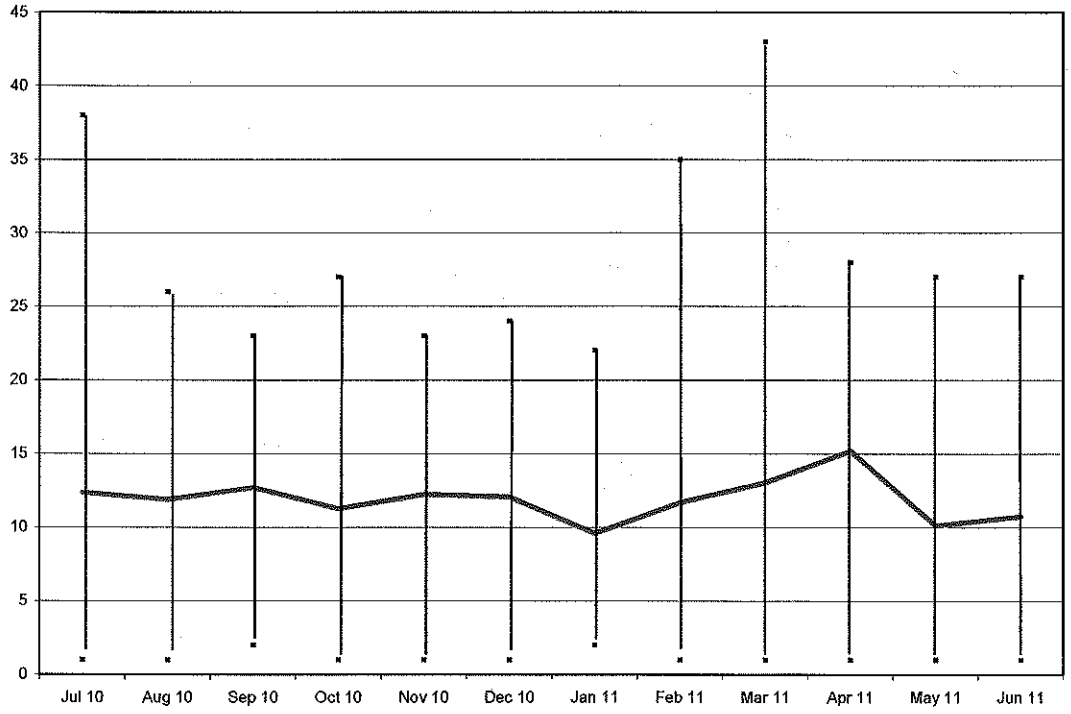
Reviewed ambulatory patients during the reporting period were predominantly females in their mid-40s who filled 10 to 10 prescriptions per month.

Table 6 – Cohort Demographics: All Reviewed Patients

	Females				Males			
MONTH	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**
Jul 10	72.7	47.6	12.4	71.58	27.3	42.7	13.2	90.45
Aug 10	73.2	47.5	11.7	67.11	26.8	43.1	11.8	81.69
Sep 10	66.7	46.5	13.1	66.92	33.3	43.9	10.8	107.79
Oct 10	69.1	44.7	11.6	75.74	33.1	48.9	12.2	68.13
Nov 10	64.8	46.4	12.8	74.94	35.2	46.8	11.7	136.69
Dec 10	73.6	41.6	12.6	70.84	26.4	43.6	10.7	72.34
Jan 11	70.1	47.4	10.1	82.07	29.9	49.1	9.7	60.42
Feb 11	59.7	44.7	11.2	57.29	40.3	41.5	9.5	65.67
Mar 11	67.2	50.9	13.3	81.36	32.8	50.1	10.6	80.98
Apr 11	69.9	51.1	15.3	90.61	30.1	50.9	9.9	83.15
May 11	66.7	41.5	10.8	83.12	33.3	30.7	8.7	59.97
Jun 11	57.1	45.1	13.1	106.82	42.9	29.7	7.8	146.32
ALL	**67.4**	**46.2**	**12.2**	**78.74**	**32.6**	**42.5**	**10.4**	**83.27**

Figure 8 shows the average and range of the number of prescriptions for each of the reviewed cohorts. The mean number of prescriptions for a patient selected for review generally ranged from 10 to 12, while the maximum number of prescriptions for a reviewed patient exceeded 40.

Figure 8 – Average, Minimum and Maximum Number of Prescriptions: All Reviewed Patients



PROGRAM EFFECTIVENESS: PATIENTS

The DRRC's two major goals are to improve pharmacotherapy for Medicaid patients and to reduce health care costs by decreasing the number of prescriptions and prescription costs. As the review process has matured, we have increased the number of telephone calls to providers to discuss drug related problems. Because of that, we have more information on the impact of our reviews.

The following patient presentations are representative examples of the types of patients being reviewed and the outcomes of those reviews:

PATIENT 1

The drug regimen of a 47-year-old female with diagnoses of bipolar disorder and a history of sedative/hypnotic abuse was reviewed. The patient had filled prescriptions for 22 medications written by two prescribers, a primary care physician and a mental health specialist.

Each month the patient had been filling prescriptions for Cymbalta (a serotonin and norepinephrine reuptake inhibitor), Strattera (a selective norepinephrine reuptake inhibitor), and citalopram (a selective serotonin reuptake inhibitor). We recommended that she be stabilized on Cymbalta alone since Cymbalta and Strattera and Cymbalta and citalopram exert their effects through the same mechanism of action and therefore would not be expected to confer additional benefit when used in combination. Also, she was receiving Cymbalta at 120 mg daily, twice the recommended effective dose. We recommended that the dose be lowered to 60 mg on a trial basis since higher dosages have not been shown to confer additional benefit for any indication.

Additionally, she had been filling monthly prescriptions for substantial doses of three antihistamines with strong anti-cholinergic effects. These included promethazine, diphenhydramine, and hydroxyzine. We recommended that the patient be evaluated for signs of anticholinergic toxicity and that the number of anticholinergic

medications be decreased. We noted that anticholinergic toxicity may be of particular concern in this patient since she had a diagnosis of bipolar disorder. Symptoms of anticholinergic toxicity, such as confusion and delirium, can be incorrectly attributed to pre-existing psychiatric illness. Additionally, in some cases, patients with psychiatric illness suffering from chronic anticholinergic toxicity have dramatic improvements in their conditions when the anticholinergic burden is decreased. We also pointed out that promethazine is not recommended for long-term use due to the risk of extrapyramidal adverse effects associated with dopamine-antagonism.

She also had been filling monthly prescriptions for two medications used to treat anxiety, buspirone and diazepam. We recommended that one of these medications be discontinued since buspirone does not generally provide additional anti-anxiety effects in patients already receiving a benzodiazepine.

Finally, each month she had been filling medications for two sedative/hypnotics used to treat insomnia, trazodone and zolpidem. She had also been filling prescriptions for several other sedating medications including Seroquel, diphenhydramine, hydroxyzine, promethazine, and diazepam. We recommended that she be stabilized on fewer sedating medications and also noted that her diagnosis code records indicate a history of sedative/hypnotic abuse.

A report was faxed to both of her prescribers with our assessment and recommendations. We reviewed this patient again 4 months from the initial review date to determine whether any of the above drug therapy problems had been resolved following the receipt of our report. It appeared that this patient had discontinued 4 prescriptions in accordance with our recommendations including Strattera, promethazine, hydroxyzine, and zolpidem, with a total of 5 fewer prescriptions than at the time of initial review

PATIENT 2

The drug regimen of a 31-year-old female was reviewed. She has a long standing history of seeking care from multiple prescribers, pharmacies and urgent care facilities in a pattern that indicates drug seeking behavior. In two previous reviews, these tendencies were identified.

In 2006, our review indicated that this patient received prescriptions from 8 prescribers during the month of review, including 3 ER physicians, and filled these medications at five pharmacies. These included opioid-containing medications from four prescribers. At this time, the patient was referred to the Medicaid restriction program. In 2008, we reviewed this patient again. This review showed a similar pattern, and the patient was referred to the Medicaid restriction program.

As of the 2011 review, the patient was on Medicaid's restriction program. This time, the patient only had two prescribers on record, one pharmacy and one urgent care visit. Only two opioids were filled, both prescribed by the same physician.

It appears that referral to the Medicaid restriction program had a significant effect on this patient's drug seeking behavior as far as can be ascertained using Medicaid records. This is beneficial to the patient's health overall as well as the Utah Medicaid program.

PATIENT 3

The drug regimen of a 36-year-old female was reviewed. The latest review showed significant improvements since a previous assessment of her drug regimen done in 2010, when there were several therapeutic duplications identified, her care was uncoordinated, and a very expensive formulation of an otherwise inexpensive medication was being prescribed.

The therapeutic duplications were as follows. First, she was taking three different centrally acting muscle relaxers, cyclobenzaprine, tizanidine and baclofen. She was also taking gabapentin and Lyrica (pregabalin) concurrently. These drugs work by a similar mechanism of action and have similar indications. The third therapeutic duplication was albuterol and Combivent being used together. Both of these medications contain albuterol. It is generally recommended that a patient take one or the other, but not both.

In 2010, this patient was receiving Ryzolt, an expensive branded formulation of tramadol. We recommended trying the patient on generic tramadol as a cost savings measure.

At the time of the 2010 review, this patient received 28 prescriptions from four prescribers and five pharmacies. This lack of coordination was suspected to be the cause of the multiple therapeutic duplications outlined above. With the 2011 review, the patient had no therapeutic duplications and the number of pharmacies was reduced to two. She still had five prescribers, but the nature of her conditions and the specialties of the prescribers were such that multiple prescribers may be necessary for this patient.

At the time of the 2011 review, all previously addressed drug related problems had resolved. The current review indicated that this patient was receiving Combivent, but not albuterol as we had recommended. She was still taking pregabalin, but was no longer taking gabapentin. Baclofen was the only remaining muscle relaxer on her profile. She was also taking generic tramadol rather than Ryzolt. As mentioned above, she still had multiple prescribers, but it appears that her care is now much better coordinated then it was in 2010

PATIENT 4

A 59-year-old woman was reviewed whose diagnoses included atrial fibrillation, Type 2 diabetes, hypertension, atherosclerosis and schizophrenia. Upon review we noted several duplications of the medications; amlodipine, Actos, warfarin and atorvastatin. Each of these prescriptions was written by two providers. In total by four providers from three clinics were frequented and the medications were filled at two pharmacies. An initial thought was a possible change in providers was in process. However upon closer inspection we noted that the medications were being refilled on a regular basis. Each of these medications has to potential to cause serious side effects such as bleeding, hypoglycemia, hypotension and possibly rhabdomyolysis if the doses are too high.

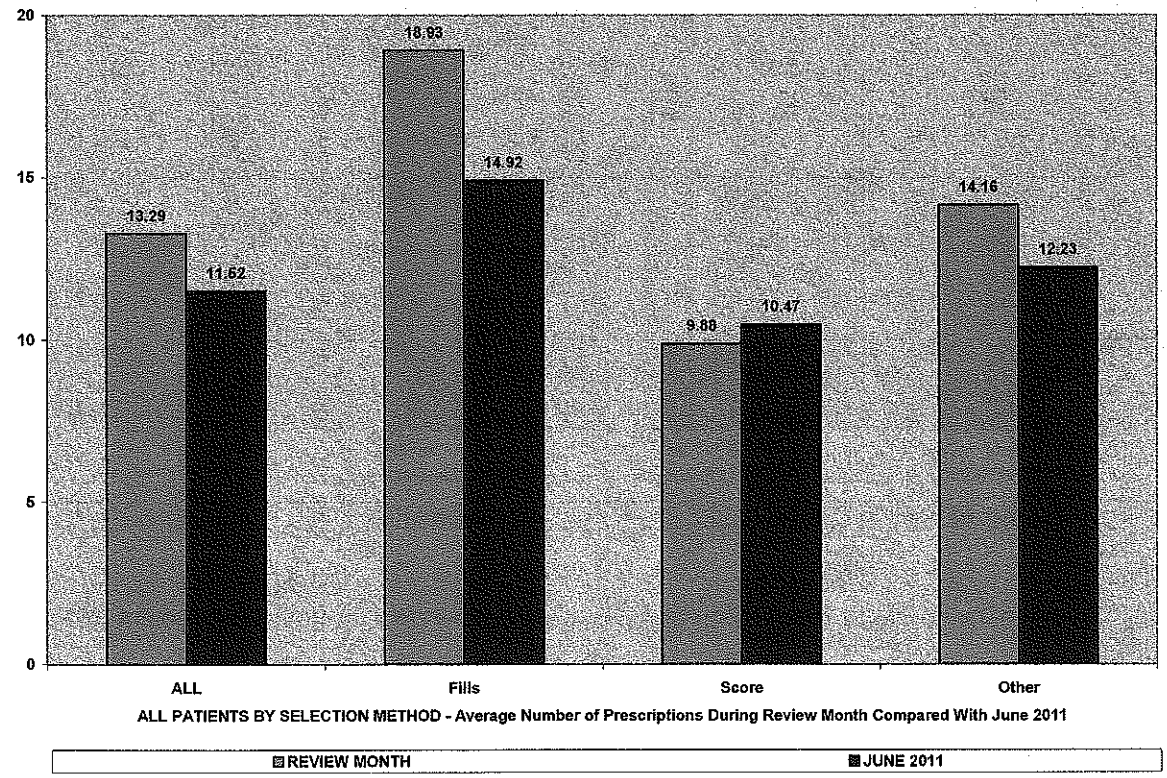
We sent a letter that pointed out the therapeutic duplications and asked the providers to re-evaluate each medication prescribed and to co-ordinate care or designate one primary provider. We also suggested the primary provider clarify the therapy with the patient and to cancel any unnecessary remaining refills at the designated pharmacies. This patient served as an example of doctor shopping, probable confusion for the patient about her therapy and a failure in the pharmacy system.

Three months after the review the patient's medication profile was streamlined. All four duplications were resolved and there was only one primary provider associated with her care.

PROGRAM EFFECTIVENESS: PRESCRIPTIONS

Figure 9 shows the average number of prescriptions per reviewed patient, by selection method, from July 2010 to June 2011, compared to the average number of prescriptions for those same patients in June 2011, the most recent month with data available.

Figure 9 – Average Fills during Review Month Compared with June 2011



The largest reduction in the average number of monthly prescription fills was seen in patients selected on the basis of fill count. Among all patients, a slight reduction in the average number of monthly prescription fills was seen.

Figures 10 and 10b show the average number of prescriptions per reviewed patient for each month from July 2010 to June 2011, compared to the average number of prescriptions filled by the same patients in June 2011, the most recent month with data available.

Figure 10 – Average Fills during Review Month Compared with June 2011 for All Reviewed Patients

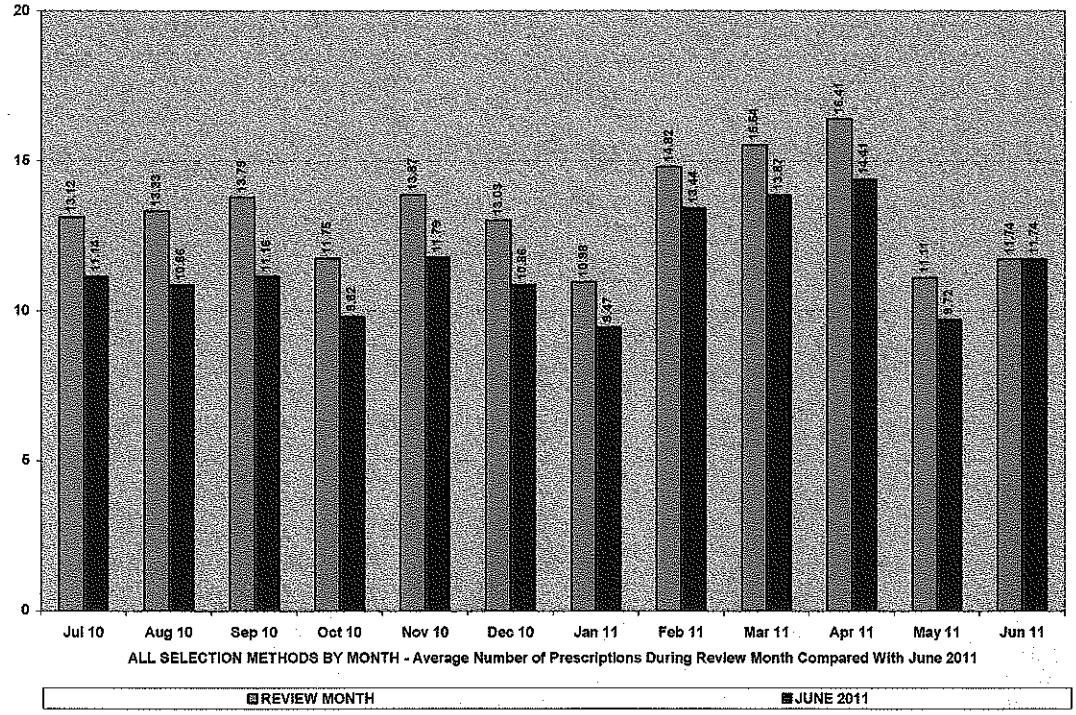
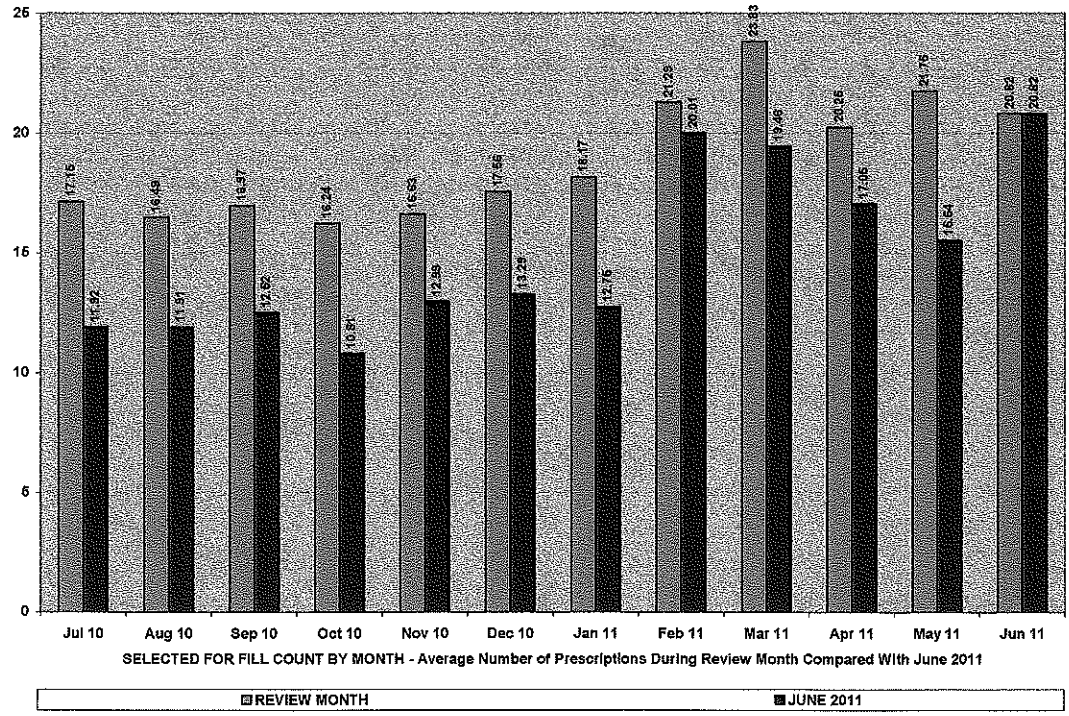


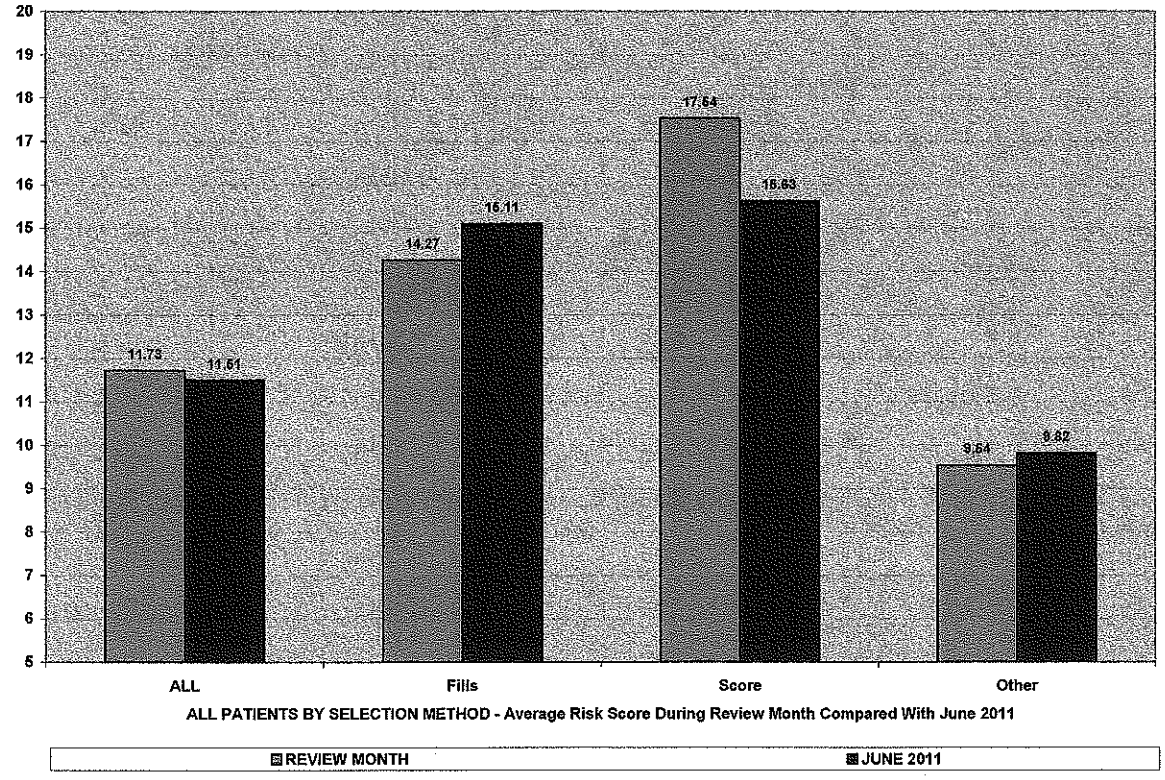
Figure 10b – Average Fills during Review Month Compared with June 2011 for Patients Selected by Fill Count



PROGRAM EFFECTIVENESS: RISK

Figure 11 shows the average risk score per reviewed patient, by selection method, from July 2010 to June 2011, compared to the average risk score for those same patients in June 2011, the most recent month with data available. The largest reduction in risk scores was seen in patients selected on the basis of risk score. Risk score actually went up slightly for patients selected using other criteria. Among all patients, a slight reduction in risk score was seen.

Figure 11 – Average Risk Score during Review Month Compared with June 2011 for All Patients by Selection Method



Figures 12 and 12b show the average risk score per reviewed patient for each month from July 2010 to June 2011, compared to the average risk score for the same patients in June 2011, the most recent month with data available.

Figure 12 – Average Risk Score during Review Month Compared with June 2011 for All Reviewed Patients

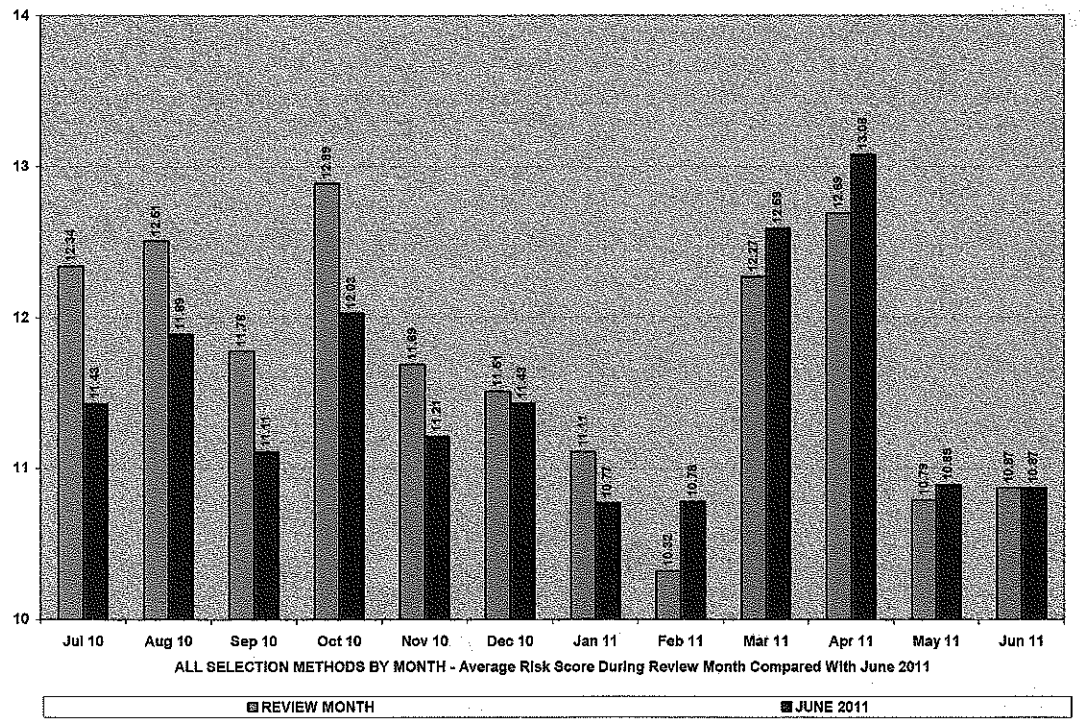
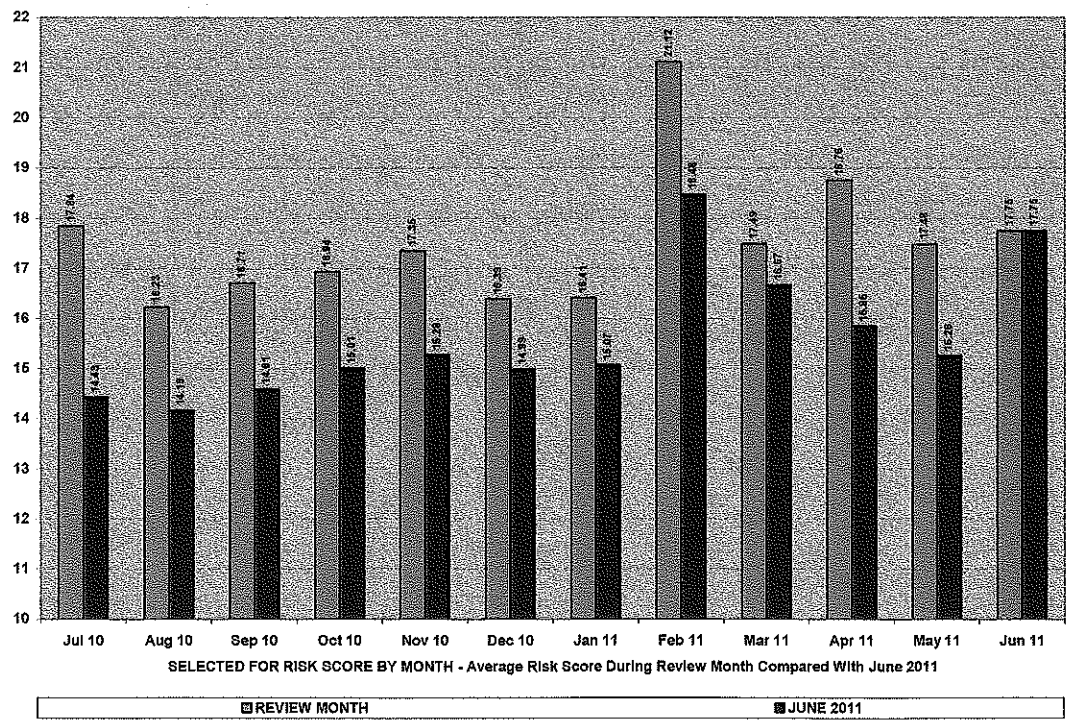


Figure 12b – Average Risk Score during Review Month Compared with June 2011 for Patients Selected by RX Risk Score



PROGRAM EFFECTIVENESS: COST

Tracking Drug Costs of Reviewed Utilizers per Month

We have tracked drug cost reimbursements to review cohorts selected using all mechanisms for the remainder of the reporting period following the month they were reviewed. We have only tracked costs for patients within each review cohort who remained eligible during the entire reporting period and accessed their drug benefit at least one time during each of the months in the reporting period. Decreases in drug costs for these selected patients were seen, some significant. Because we eliminated patients who did not receive subsequent prescriptions, these estimates are conservative.

For each patient reviewed between July 2010 and June 2011, total drug cost during the review month was used as the baseline amount for comparison. Costs of these baseline amounts were compared with the drug costs for each subsequent month up until June 2011. For example, costs in February 2011 were compared with costs in March 2011, April 2011, May 2011 and June 2011 for those patients reviewed during February 2011. Additional cost savings for patients reviewed before July 2010 are not included, nor are additional savings that would be expected after June 2011 for patients included in this report.

Assuming total Medicaid drug costs that remain constant after the month of review, drug costs for reviewed patients from July 2010 through June 2011 decreased by $823,895.

In considering this information it is important to understand that we cannot determine what the reviewed patients' drug costs would have been if they had not been reviewed. It is possible that without a review their costs would have increased, remained the same or declined. To effectively address this we would need to compare changes in prescription drug costs over the same period with a suitable control group. This is not possible with our current patient selection process.

Almost all of the decrease in prescription costs were seen in patients selected based on the number of filled prescriptions. Although only modest changes were seen in patients selected by risk score, it is important to consider that a decrease in risk score is associated with less risk and lower medical costs, including the costs of hospital admissions.

SEE APPENDIX A

APPENDIX A

TOTAL FOR ALL REVIEWED PATIENTS ELIGIBLE AND UTILIZING RX BENEFITS ENTIRE REPORTING PERIOD - NO INCREASE IN COSTS ASSUMED

	Jul 10	Aug 10	Sep 10	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	TOTAL	PROJECTED	SAVINGS
Jul 10	**80,365**	68,116	62,561	63,808	69,467	79,011	73,872	59,814	77,914	61,959	70,976	73,018	840,881	964,380	123,499
Aug 10		**97,412**	68,220	73,329	84,341	80,710	68,939	73,203	84,506	79,596	83,238	79,503	872,996	1,071,531	198,535
Sep 10			**107,921**	74,137	94,369	78,060	102,611	80,670	87,457	99,265	92,501	94,382	911,372	1,079,213	167,840
Oct 10				**83,521**	63,217	83,192	73,314	65,687	76,056	64,323	82,083	92,125	683,519	751,692	68,173
Nov 10					**102,322**	81,974	83,708	79,887	86,749	87,396	82,238	96,925	701,199	818,575	117,376
Dec 10						**80,971**	66,417	70,316	73,812	72,555	74,887	74,867	513,824	566,797	52,973
Jan 11							**58,648**	42,768	56,531	48,386	53,697	49,793	309,823	351,886	42,063
Feb 11								**78,286**	80,826	70,490	72,938	76,968	379,509	391,432	11,923
Mar 11									**96,294**	81,431	86,177	87,165	351,068	385,177	34,109
Apr 11										**107,891**	102,461	110,803	321,155	323,674	2,519
May 11											**88,441**	83,556	171,997	176,883	4,885
Jun 11												**125,491**			
												TOTAL	6,057,344	6,881,239	823,895
PATIENTS	69	77	71	74	80	79	64	62	70	68	87	88			

*Total number from each monthly review cohort remaining eligible for AND utilizing prescription drug benefits during the entire 12 month reporting period

AVERAGE PER PATIENT

	Jul 10	Aug 10	Sep 10	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	TOTAL	PROJECTED	SAVINGS
Jul 10	**1,165**	987	907	925	1,007	1,145	1,071	867	1,129	898	1,029	1,058	12,187	13,977	1,790
Aug 10		**1,265**	886	952	1,095	1,048	895	951	1,097	1,034	1,081	1,033	11,338	13,916	2,578
Sep 10			**1,520**	1,044	1,329	1,099	1,445	1,136	1,232	1,398	1,303	1,329	12,836	15,200	2,364
Oct 10				**1,129**	854	1,124	991	888	1,028	869	1,109	1,245	9,237	10,158	921
Nov 10					**1,279**	1,038	1,308	1,289	1,239	1,285	945	1,101	9,484	10,232	748
Dec 10						**1,025**	841	890	934	918	948	948	6,504	7,175	671
Jan 11							**916**	668	883	756	839	778	4,841	5,498	657
Feb 11								**1,263**	1,304	1,137	1,176	1,241	6,121	6,313	192
Mar 11									**1,376**	1,163	1,231	1,245	5,015	5,503	487
Apr 11										**1,587**	1,507	1,629	4,723	4,760	37
May 11											**1,017**	960	1,977	2,033	56
Jun 11												**1,426**			