



Utah Department of Health and University of Utah College of Pharmacy
UTAH MEDICAID DRUG REGIMEN REVIEW CENTER

ANNUAL REPORT:
OCTOBER 2012 - SEPTEMBER 2013

The Utah Medicaid Drug Regimen Review Center
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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 the safety and efficacy of drug use in Medicaid patients; reduce the number of prescriptions and drug costs for frequent utilizers of the Medicaid drug program; and to support and educate the medical professionals who prescribe to 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
Joanita Lake, B.Pharm., M.Sc. EBHC (Oxon)
Bryan Larson, Pharm.D., BCPS
Gary M. Oderda, Pharm.D., MPH
Carin Steinvooort, Pharm.D.

Data Management

Lisa Angelos
Brian Oberg, MBA
David Servatius

MISSION

The two primary missions of the DRRC are:

- 1) To support the Utah Medicaid Drug Utilization Review (DUR) Board and Pharmacy & Therapeutics (PT) Committee by researching and reviewing targeted drug classes and individual agents, and
- 2) To review the drug therapy of Medicaid patients who are frequent 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, highest-quality pharmacotherapy at the lowest cost possible.

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.

In 2008 the method of patient selection was modified significantly.

The number of patients selected for review each month was reduced from 300 to 150, and three distinct rules for selection were implemented. Each of these new rules was used to select about 50 patients per month:

1. Prescription Drug Counts

An average 50 patients per month 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.

2. RxRisk[®] Comorbidity Scores

An average 50 patients per month 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.

3. RxRisk[®] Chronic Diseases

An average 50 patients per month 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.

In 2011 the method of patient selection was modified again.

The RxRisk[®] Chronic Diseases rule was eliminated and an average 50 of the 150 patients have been selected each month 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 Medicaid population.

Table 1 summarizes the variable rules that have been used each month *during the current reporting period*.

Table 1 – Criteria Used for Targeted Patient Interventions between October 2012 and September 2013

OCT 12

DEFINITION	Patients who received prescriptions for at least two drugs that prolong the QT interval, or increase the risk of Torsades de Pointes, during the month of review.
PURPOSE	To identify patients at increased risk for QT prolongation and serious life-threatening arrhythmias or cardiovascular effects due to concomitant use of at least two QT prolonging drugs.

NOV 12

DEFINITION	Patients who had uncontrolled asthma.
PURPOSE	To identify patients with persistent asthma for the purpose of optimizing their asthma therapy.

DEC 12

DEFINITION	Patients who had uncontrolled asthma.
PURPOSE	To identify patients with persistent asthma for the purpose of optimizing their asthma therapy.

JAN 13

DEFINITION	Patients who had uncontrolled asthma.
PURPOSE	To identify patients with persistent asthma for the purpose of optimizing their asthma therapy.

FEB 13

DEFINITION	Patients who received a minimum of three fills for a thiazolidinedione during the month of review with no fills for metformin within the most recent four month period.
PURPOSE	To identify patients 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.

MAR 13

DEFINITION	Patients who received no metformin during the month of an initial DPP-4 fill or during the six months prior to that.
PURPOSE	To identify patients receiving treatment with a DPP-4 inhibitor without first receiving metformin.

APR 13

DEFINITION	Female patients who received a minimum of 90 tablets and three fills for zolpidem 10 mg or zolpidem extended release 12.5 mg during the past 120 days, with the most recent fill during the month of review.
PURPOSE	To identify female patients receiving regular prescriptions of zolpidem above the new recommended dosing guidelines because of the risks associated with impaired morning alertness. The FDA recommends that the bedtime dose be lowered because new data show that blood levels in some patients may be high enough the morning after use to impair activities that require alertness, including driving.

MAY 13

DEFINITION	Patients age 50 and over who received a minimum of 90 tablets and three fills for zolpidem 10 mg or zolpidem extended release 12.5 mg during the past 120 days, with the most recent fill during the month of review, and who were continuously eligible for benefits during the past 120 days.
PURPOSE	To identify elderly patients receiving regular prescriptions of zolpidem above the new recommended dosing guidelines because of the risks associated with impaired morning alertness. The FDA recommends that the bedtime dose be lowered because new data show that blood levels in some patients may be high enough the morning after use to impair activities that require alertness, including driving.

JUN 13

DEFINITION	Patients who were continuously eligible for benefits during the prior 12 months, and who received prescriptions for Invega (excluding Invega Sustenna), Vyvanse, Pristiq, Kapvay or Intuniv in the month of review without having tried risperidone, dextroamphetamine, venlafaxine, clonidine or guanfacine, respectively, in the prior 12 month.
PURPOSE	To identify patients receiving brand name prescriptions for psychiatric medications which have similar molecules available as a generic, without having received prior treatment with the generic.

JUL 13

DEFINITION	Patients who received three fills with a minimum quantity of 60 tablets each for tramadol, or three fills with a minimum quantity of 30 tablets each for tramadol extended release, within the most recent four month period.
PURPOSE	To identify patients receiving regular treatment with tramadol. Tramadol has recently been made a controlled prescription in the state of Utah due to risk of abuse, misuse and diversion associated with tramadol therapy. Similar to other opioid agents, tramadol therapy decreases GI motility and may result in constipation. Tramadol also interacts with other serotonergic medications and CNS depressants and may lower the seizure threshold.

AUG 13

DEFINITION	Patients who received three fills with a minimum quantity of 60 tablets each for tramadol, or three fills with a minimum quantity of 30 tablets each for tramadol extended release, within the most recent four month period.
PURPOSE	To identify patients receiving regular treatment with tramadol. Tramadol has recently been made a controlled prescription in the state of Utah due to risk of abuse, misuse and diversion associated with tramadol therapy. Similar to other opioid agents, tramadol therapy decreases GI motility and may result in constipation. Tramadol also interacts with other serotonergic medications and CNS depressants and may lower the seizure threshold.

SEP 13

DEFINITION	Patients who received three fills with a minimum quantity of 60 tablets each for tramadol, or three fills with a minimum quantity of 30 tablets each for tramadol extended release, within the most recent four month period.
PURPOSE	To identify patients receiving regular treatment with tramadol. Tramadol has recently been made a controlled prescription in the state of Utah due to risk of abuse, misuse and diversion associated with tramadol therapy. Similar to other opioid agents, tramadol therapy decreases GI motility and may result in constipation. Tramadol also interacts with other serotonergic medications and CNS depressants and may lower the seizure threshold.

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

In January 2013 the method of patient selection was modified once again.

Under a new Utah State Department of Health policy, effective January 1, 2013, all Medicaid patients living in the state's four urban counties – Salt Lake, Utah, Davis and Weber – were required to enroll in one of four private-sector Alternative Care Organizations (ACOs) and all pharmacy claims were processed and paid through those organizations. Patients in rural counties were also encouraged to voluntarily enroll in an ACO. Given that each of the ACOs conduct their own drug utilization review programs, patient reviews completed by the DRRC program were limited to traditional Medicaid patients (those not enrolled in an ACO) living in the state's 25 rural counties.

To date, using all methods of patient selection, the Drug Regimen Review Center has mailed or faxed 53,855 reports to 16,568 prescribers, with recommendations concerning 19,834 Medicaid patients.

PRESENTATIONS AND REPORTS

Tables 2 and 3 summarize the research done for Drug Utilization Review (DUR) Board presentations and Pharmacy & Therapeutics (PT) Committee reports between October 2012 and September 2013.

Table 2 – Drug Utilization Review (DUR) Board Presentations Produced by the Utah Medicaid Drug Regimen Review Center

Month	Topic	Description
NOV 12	Androgenic Agents	Assisted the DUR board in a review of testosterone use in the Utah Medicaid population, and in deciding whether clinical prior authorization criteria would be appropriate due to several safety and monitoring issues -- including misuse, abuse, screening for conditions, monitoring of testosterone levels, adverse effects, risk of virilization in children and safety in specific populations.
FEB 13	DPP4 Inhibitors	Assisted the DUR board in a review of DPP-4 inhibitors and their place in therapy among existing hypoglycemic drugs, and a review of DPP-4 inhibitor utilization in the Utah Medicaid population, to ensure appropriate, medically necessary use of the drug class.
MAR 13	DPP4 Inhibitors / Metoclopramide Alerts	Assisted the DUR board in continued review of DPP-4 inhibitors to ensure appropriate, medically necessary use of the drug class. Additionally, medication utilization alerts were sent to prescribers whose patients were receiving continued metoclopramide treatment for at least three months beyond the limit of 12 weeks, which put them at risk for developing tardive dyskinesia.
APR 13	Urinary Antispasmodics: Anti-Muscarinics	Assisted the DUR board in a review of anticholinergic agents and their use for overactive bladder, their appropriate place in therapy, and their utilization in the Utah Medicaid population, in order to ensure appropriate and medically necessary use of the medications.
MAY 13	Urinary Antispasmodics: β-3 Agonists	Assisted the DUR board in a review of Mirabegron, the first product from the new β -3 agonist class of drugs to be approved by the FDA, to ensure appropriate and medically necessary use of the medication.
JUN 13	Rifaximin	Assisted the DUR board in a review of rifaximin use in order to ensure appropriate, medically necessary use of the medication and to examine whether or not there is a need to enforce on-label use.
JUL 13	New Anti-Epileptic Drugs	Assisted the DUR board in a review of adjunctive therapy with peramppanel, ezogabine and oxcarbazepine in the treatment of partial seizures; in order to ensure appropriate, medically necessary use according to product labeling, current guidelines and safety information.
SEP 13	Thiazolidinediones	Assisted the DUR board in a review of the role of thiazolidinediones and other hypoglycemic drugs; and in a review of the utilization of thiazolidinediones in the Utah Medicaid population; in order to ensure appropriate, medically necessary use of the drug class while considering potential safety issues.

Table 3 – Pharmacy & Therapeutics (PT) Committee Reports Produced by the Utah Medicaid Drug Regimen Review Center

Month	Topic	Agents	Documents Provided
OCT 12	Topical Steroids	Alclometasone, Amcinonide, Betamethasone, Clobetasol, Clo cortolone, Desonide, Desoximetasone, Diflorasone, Fluocinolone, Fluocinonide, Flurandrenolide, Fluticasone, Halcinonide, Halobetasol, Hydrocortisone, Mometasone, Prednicarbate, Triamcinolone	Class review, utilization data and list of available agents and dosage forms.
FEB 13	Otic Antibiotics and Corticosteroids	Ciprofloxacin, Ciprofloxacin-Dexamethasone, Ciprofloxacin-Hydrocortisone, Dexamethasone, Fluocinolone, Neomycin-Colistin-Hydrocortisone-Thonzonium, Neomycin-PolymyxinB-Hydrocortisone, Ofloxacin	Class review, utilization data and list of available agents and dosage forms.
MAR 13	Multiple Sclerosis Agents	Fingolimod, Dalfampridine	Two individual drug class reviews, summary of agents in the class and utilization data.
MAY 13	Factor XA Inhibitors	Apixaban, Fondaparinux, Rivaroxaban	Executive summary, class review, utilization data and list of available agents and dosage forms.
MAY 13	Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists	Exenatide, Liraglutide	Executive summary, class review, utilization data and list of available agents and dosage forms.
AUG 13	Sulfonylureas and Sulfonylurea Combination Products	Chlorpropamide, Gliclazide, Glimepiride, Glipizide, Glyburide, Tolazamide, Tolbutamide, Metformin-Glipizide, Metformin-Glyburide	Class review, utilization data and list of available agents and dosage forms.
SEP 13	Oral Anticoagulants	Apixaban, Dabigatran, Rivaroxaban, Warfarin	Class review, utilization data and list of available agents and dosage forms.
SEP 13	Erythropoiesis Stimulating Agents	Procrit, Aranesp	Class review, utilization data and list of available agents and dosage forms.

PROGRAM BACKGROUND

Utah Medicaid drug claim costs have been increasing dramatically during the past two decades. The total increase in these costs from January 2002 to January 2006, when the Medicare Part D prescription drug benefit went into effect, was approximately 75.8%. In January 2006 these costs dropped sharply, and have been creeping upward again since that time.

Recently, however, the total number of claims decreased among all Medicaid patients from 235,781 to 226,685 per month (3.86%) during the period from October 2012 to December 2012. Drug costs also decreased from \$14,390,104 to \$14,095,081 per month (2.05%) during this same period.

The total number of claims decreased among non-ACO Medicaid patients from 85,775 to 73,802 per month (13.96%) during the period from January 2013 to September 2013. Drug costs also decreased from \$4,934,214 to \$4,398,694 per month (10.85%) during this same period.

Figures 1a, 1b, 2a and 2b show the total number of Medicaid pharmacy claims and the total cost of these claims for each month during the reporting period from October 2012 to September 2013, and Figures 3a and 3b show the trend in total drug claim costs during the entire project period from January 2002 to September 2013.

Figure 1a – Total Medicaid Drug Claims by Month from October 2012 to December 2012 (All Patients)

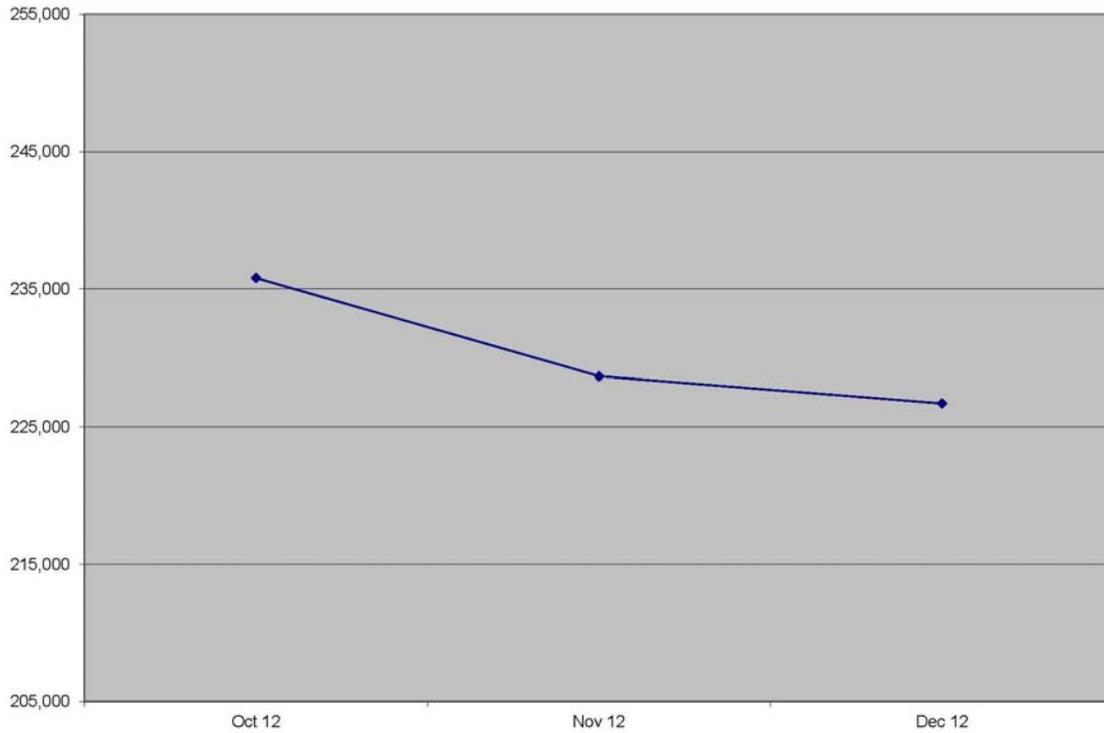


Figure 1b – Total Medicaid Drug Claims by Month from January 2013 to September 2013 (Non-ACO Patients Only)

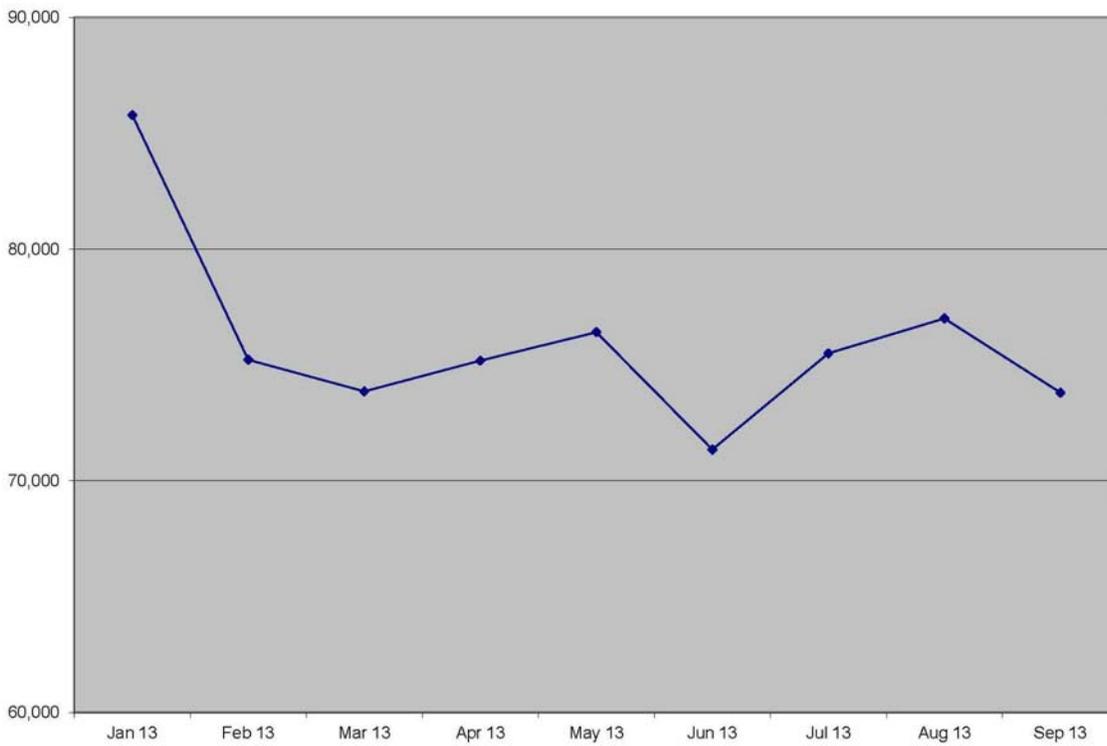


Figure 2a – Total Medicaid Drug Claim Costs by Month from October 2012 to December 2012 (All Patients)

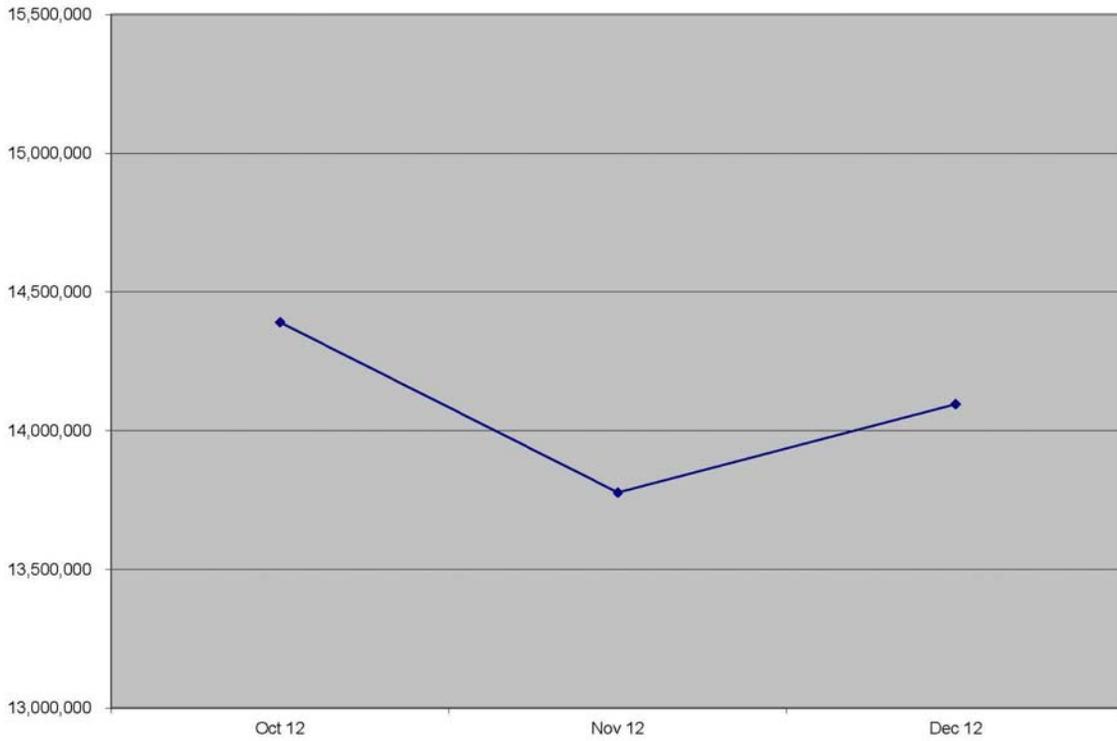


Figure 2b – Total Medicaid Drug Claim Costs by Month from January 2013 to September 2013 (Non-ACO Patients Only)

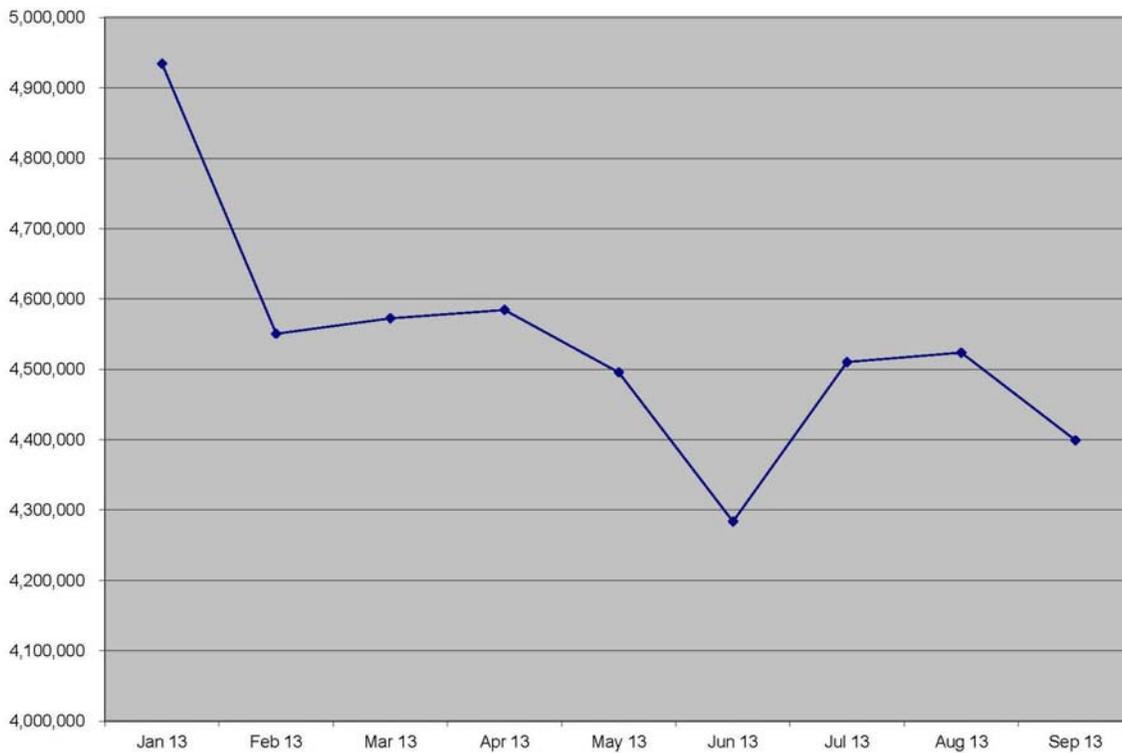


Figure 3a – Medicaid Drug Program Costs from January 2002 to December 2012 (All Patients)

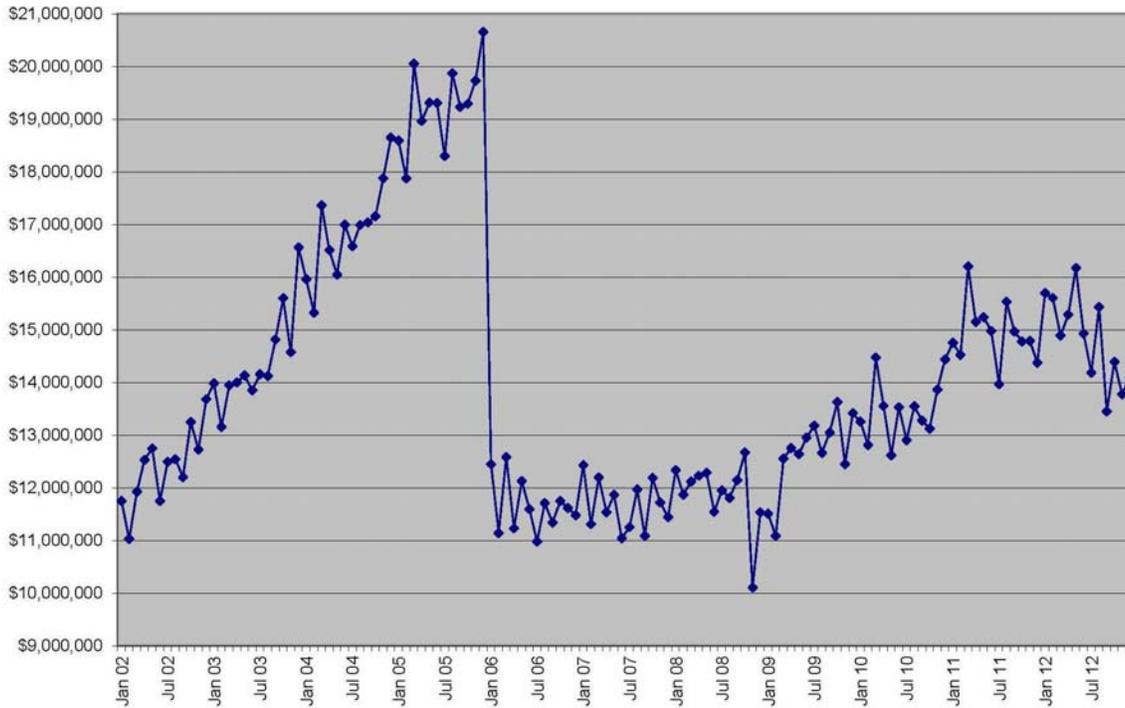
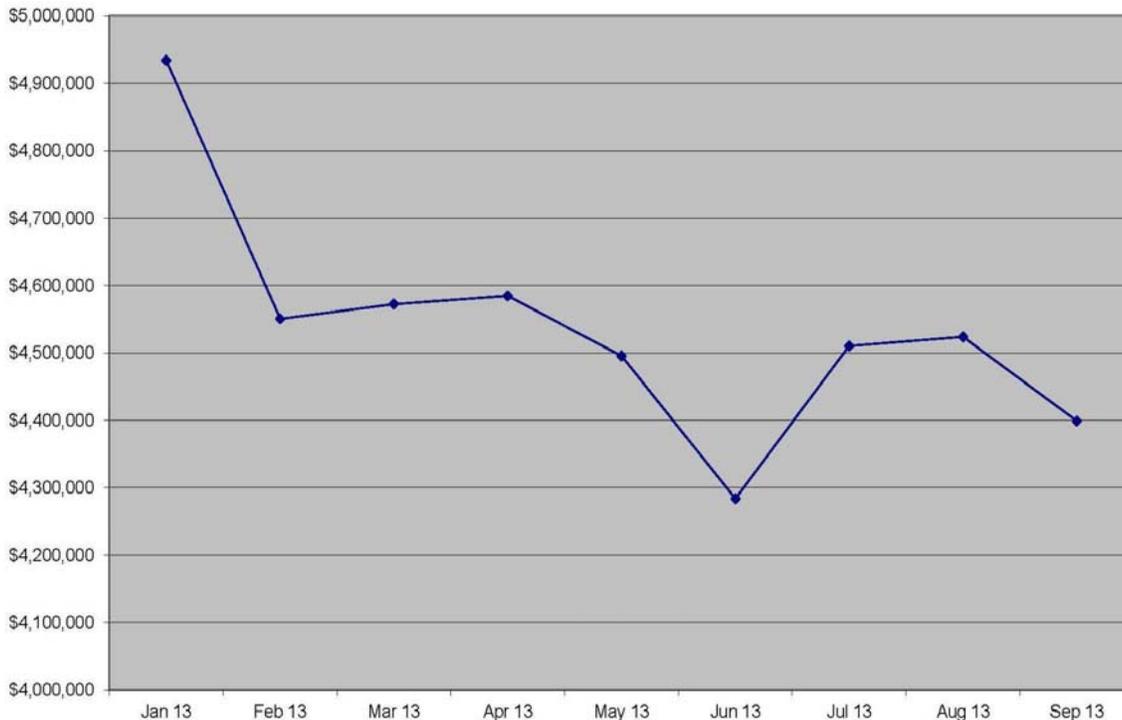


Figure 3b – Medicaid Drug Program Costs from January 2013 to September 2013 (Non-ACO Patients Only)



Increases in total drug spend during the past three reporting periods have been 2.7% (July 2009 to June 2010), 16.1% (July 2010 to June 2011), and 6.9% (July 2011 to June 2012).

After June 2012, a decrease of 0.7% was seen between July 2012 and December 2012 among all Medicaid patients -- and a decrease of 10.9% was seen between January 2013 and September 2013 among Medicaid patients not enrolled in an ACO.

Several factors are responsible for fluctuating costs, including changes in Medicaid enrollment numbers.

PROGRAM SUMMARY

Table 4 defines the different drug related problems included in reports that have been sent to prescribers since the inception of the program.

Table 4 – Definitions of Drug Related Problems

DRP	Description
Adherence	A pattern of refills that indicates that a patient is not adherent to a prescribed regimen that is intended to be used on an ongoing basis to treat a chronic disease.
Additive Toxicity	The concomitant use of medications with similar pharmacodynamic actions that may produce excessive pharmacologic or toxic effects when given together. To minimize additive toxicity, a patient's drug regimen may need to be adjusted to include a decreased number of medications that cause a given toxicity.
Brand Name Dispensed	The use of a brand-name medication when a less costly bioequivalent alternative is available.
Consider Alternative	The use of a medication with no bioequivalent generic but with a less costly alternative agent in the same class. For some medications, different agents within the same class are therapeutically interchangeable, and another drug can be selected without negatively impacting the patient's drug therapy.
Coordinate Care	The prescribing of multiple medications for the same disease state by multiple providers. Uncoordinated care may result in insufficient monitoring of a patient's disease states and could lead to other drug related problems, such as drug-drug interactions, drug-disease interactions, and therapeutic duplications.
Dose Exceeds Usual Recommendations	The use of a medication above the recommended dosage range for a patient's age or condition. Supra-therapeutic dosing may lead to adverse effects such as hypokalemia and a rise in plasma cholesterol.
Drug Available Over the Counter	The receipt of a medication by prescription when it is available over-the-counter (OTC). Although many OTC medications are clinically useful and less costly alternatives to prescription drugs, we ask providers to use their judgment as to whether or not patients can purchase the item themselves.
Drug-Disease Interaction	The use of a medication that is contraindicated due to the patient's age, gender, or disease state(s).
Drug-Drug Interaction	Increased toxicity or decreased therapeutic activity of one or more medications due to the concomitant use of another drug that affects its activity. Drugs that induce or inhibit hepatic metabolism, drugs that are highly protein-bound, or drugs that affect the renal clearance of another are frequently involved in drug-drug interactions.
Duration Exceeds Usual Recommendations	The use of a medication for longer than recommended for the patient's age or condition. Excessive duration of therapy may lead to additional adverse effects and toxicity.

Medication Over-Utilization	The frequent use of a medication or class of medications that are intended for acute treatment and not at frequent intervals.
Streamline Therapy	The use of more tablets or capsules than necessary to achieve a desired dose or the receipt of separate dosage forms for two agents that are available in a combination product. Streamlining therapy could result in improved patient compliance and clinical outcomes.
Sub-Therapeutic Dose	The use of a medication below the recommended dosage range for the patient's age or condition. Sub-therapeutic dosing may cause patients to experience adverse effects without therapeutic benefit, or may require the addition of other medications to control a disease state that could be controlled by the use of a single medication at an appropriate dosage-
Therapeutic Duplication	The inappropriate use of multiple medications for the same indication.
Treatment Without an Indication	The use of a medication without an apparent indication. Unnecessary exposure to medications may lead to increased risks of adverse events and toxicity.
Untreated Indication	The absence of a medication that appears to be needed based on usual best practice or guidelines. Untreated indications could result in morbidity and mortality for a patient.

Tables 5a and 5b, and Figures 4a and 4b, summarize the drug related problems identified in the reports sent to prescribers between October 2012 and September 2013.

Total Letters Sent: **2,173**

Total Identified Drug Related Problems (DRP): **3,276**

Table 5a – Drug Related Problems Identified between October 2012 and December 2012 (All Patients)

Medication Over-Utilization	204
Untreated Indication	164
Therapeutic Duplication	113
Additive Toxicity	110
Drug-Drug Interact	46
Consider Alternative	44
Streamline	42
Coordinate Care	36
Adherence	31
Dose Excessive	22
Drug-Disease Interact	18
SubTher Dose	8
Treatment No Indication	8
Other	4
Brand Dispensed	1

Figure 4a – Drug Related Problems Identified: October 2012 to December 2012 (All Patients)

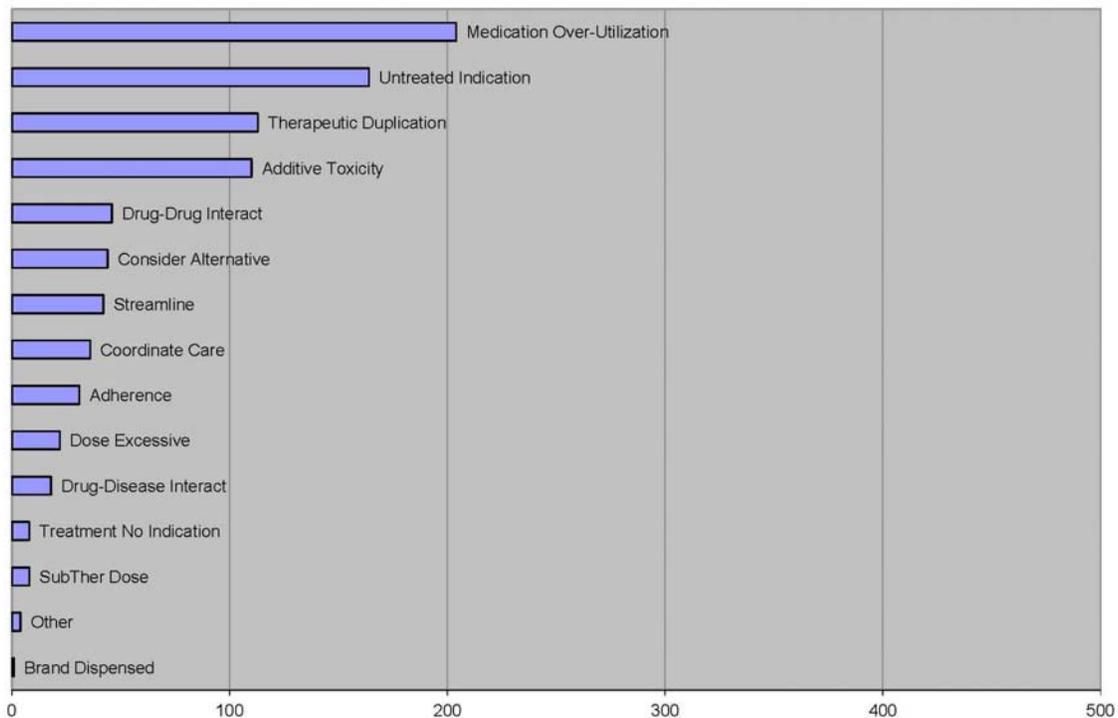


Table 5b – Drug Related Problems Identified between January 2013 and September 2013 (Non-ACO Patients Only)

Consider Alternative	415
Medication Over-Utilization	398
Untreated Indication	347
Additive Toxicity	291
Therapeutic Duplication	209
Adherence	156
Dose Excessive	135
Coordinate Care	112
Streamline	111
Drug-Drug Interact	98
Drug-Disease Interact	78
Treatment No Indication	36
SubTher Dose	23
Brand Dispensed	8
Other	8

Figure 4b – Drug Related Problems Identified: January 2013 to September 2013 (Non-ACO Patients Only)

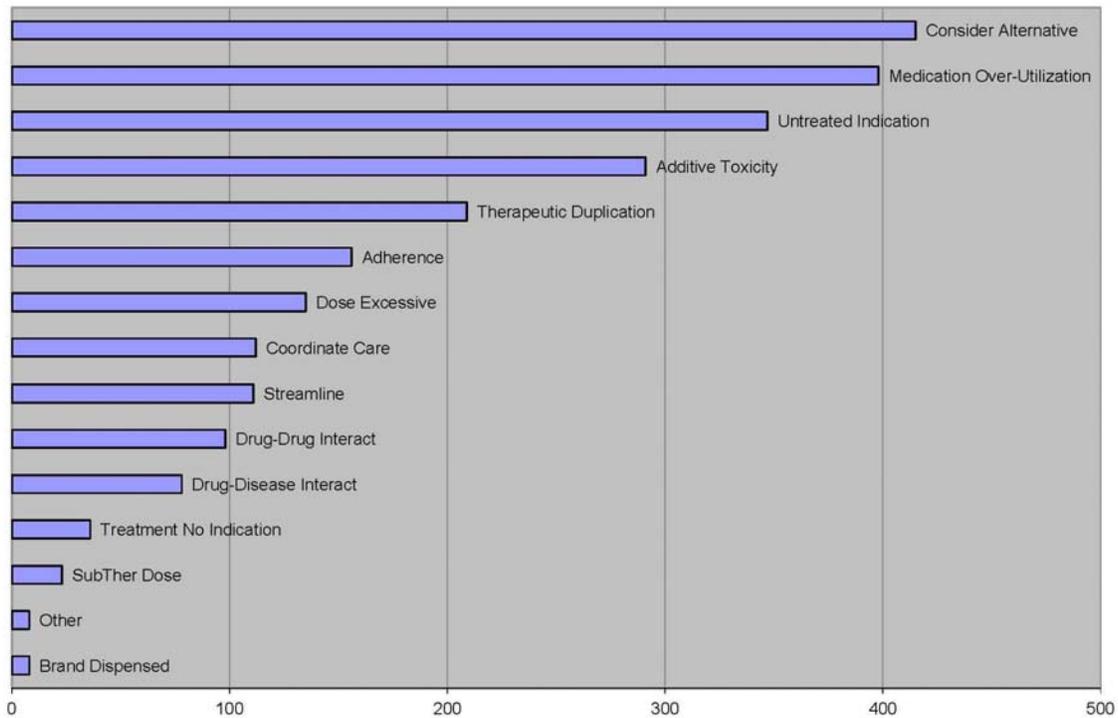
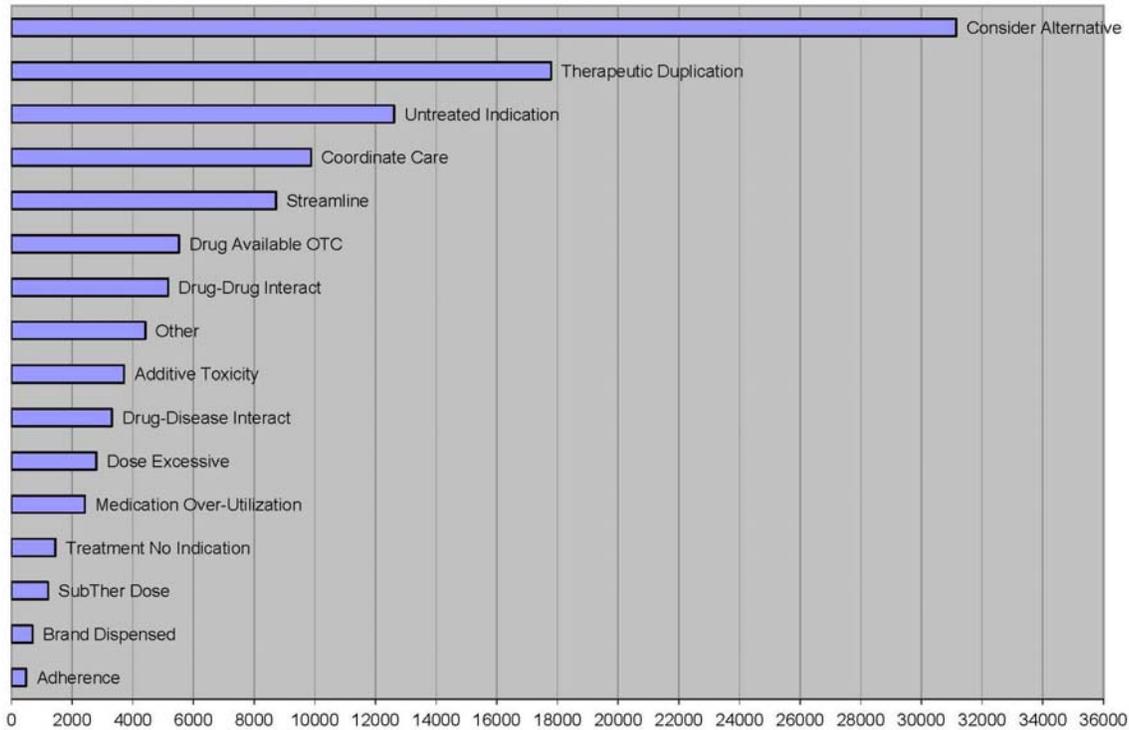


Figure 5 summarizes the drug related problems identified in the reports that have been sent to prescribers since the inception of the program in May 2002.

Figure 5 – Drug Related Problems Identified and Reported: Program Life



Drug related problems and recommendations are explained in Table 4 above.

The most common recommendation made to prescribers since the beginning of the program has been to consider alternative therapy, or to consider the use of a medication with no bioequivalent generic but with a less costly alternative agent in the same class. The most common drug therapy problem identified in the current reporting period was medication over-utilization, or the frequent use of a medication or class of medications intended for acute treatment and not at frequent intervals.

RESTRICTION PROGRAM REFERRAL

From time to time, pharmacists will notice a pattern of prescription fills that suggests inappropriate utilization of health care services on the part of a patient. The most common warning signs are utilization of multiple physicians, pharmacies, emergency rooms or controlled substances in a pattern that indicates likely abuse, uncoordinated care or a lack of a primary care. Patients with these patterns are flagged and may be referred to and enrolled in the Medicaid Restriction Program, a program that provides safeguards against inappropriate and excessive use of Medicaid services.

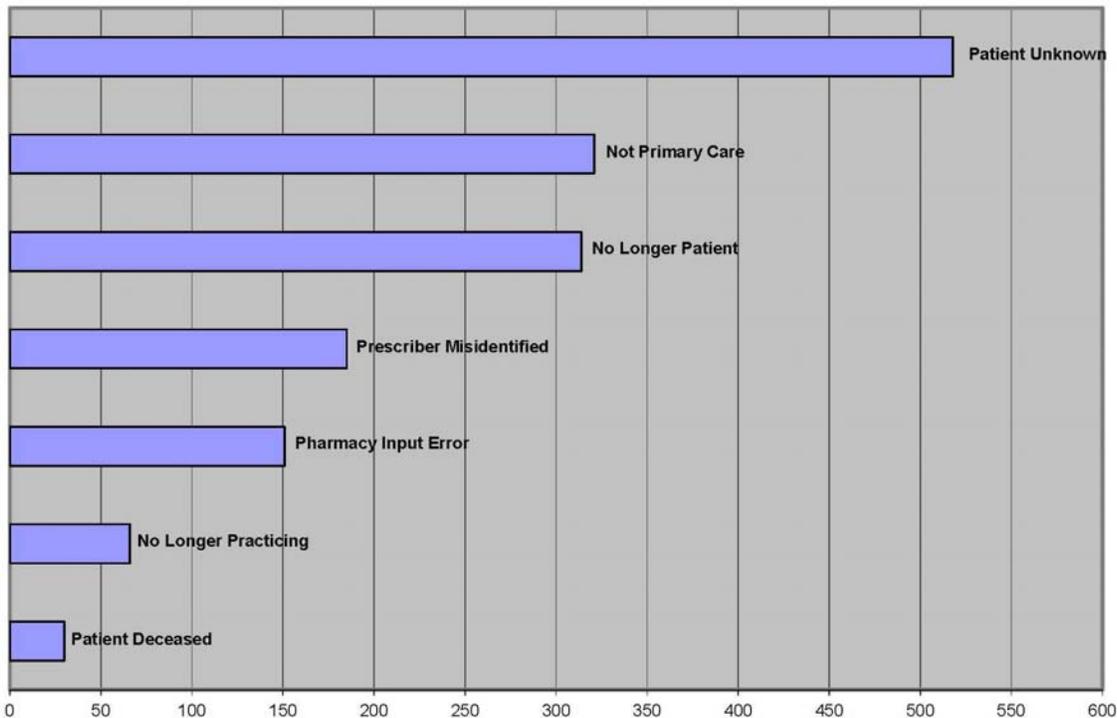
PROGRAM FEEDBACK

Logistical Feedback

When the Utah Medicaid Drug Regimen Review Center began operating in May 2002, administrative efforts were focused primarily on soliciting logistical feedback from the prescribers we contacted – information on incorrectly identified patients and drugs, changes of practice, pharmacy input errors, incorrect addresses on file and patients not being treated by the prescriber identified.

Figure 6 summarizes the responses of the 1,585 individuals who have contacted the DRRC about one of these logistical issues after receiving an intervention letter since the program's inception in May 2002.

Figure 6 – Summary of Logistical Feedback Received from Prescribers



Using this feedback, the DRRC implemented a variety of verification procedures, made necessary adjustments to patient selection and prescriber identification processes and began compiling a propriety database of personally verified information on doctors who prescribe drugs to Utah Medicaid patients.

This propriety database now contains accurate contact, practice, background and prescribing information for 8,589 prescribers.

Quality Feedback

By the end of 2009, these administrative efforts had reduced the incidence of these types of logistical issues to practically none and the program began to focus on quality feedback.

Beginning in October 2009, every recommendation sent to a prescriber in a patient report has included a section asking that prescriber to provide his or her opinion about the general usefulness of the recommendation and the likelihood of implementation into the patient's existing drug regimen.

Following is an example of the feedback solicitation included with every pharmacist recommendation:

ADHERENCE--HYPERTENSION AND HYPERLIPIDEMIA

ASSESSMENT: This patient has diagnoses of hypertension and hyperlipidemia but appears to be poorly adherent to the prescribed medications. In the past six months she has refilled prescriptions for a statin three times (once in Aug. '09 and twice in Jan '10) and lisinopril once (Jan '10).

RECOMMENDATION: Consider non-adherence as a factor if treatment failure occurs. You may wish to encourage adherence to the medication regimen at her next appointment.

	Not at all		Very			Comment
How useful did you find this information?	1	2	3	4	5	_____
How likely are you to implement this recommendation	1	2	3	4	5	_____

This recommendation does not apply to my experience with the patient.

The average rating received since October 2009 on the general usefulness of pharmacist recommendations has been 4.2 on a scale of 1 to 5.

The average rating received since October 2009 on the likelihood of implementation into the patient's existing drug regimen has been 3.4 on a scale of 1 to 5.

All feedback and prescriber comments are compiled into a report for the DRRC pharmacists to review at monthly Quality Assurance meetings, where specific recommendations and general intervention protocols are reviewed and revised as needed.

DEMOGRAPHICS

Patients were selected for review based on three different criteria: 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 6a – Patient Selection between October 2012 and December 2012 (Among All Medicaid Patients)

	Total	Fill Value	Fill Count	Score Value	Rx Risk [®] Score	Variable Rule
Oct 12	146	18	68	15	57	29
Nov 12	166	19	33	15	46	90
Dec 12	157	17	71	15	30	59
TOTAL	469		172		133	178

Table 6b – Patient Selection between January 2013 and September 2013 (Among Non-ACO Patients Only)

	Total	Fill Value	Fill Count	Score Value	Rx Risk [®] Score	Variable Rule
Jan 13	129	15	59	13	52	28
Feb 13	135	14	67	12	75	9
Mar 13	98	14	48	12	43	12
Apr 13	167	14	47	11	98	39
May 13	139	14	53	12	33	64
Jun 13	191	14	27	11	40	135
Jul 13	190	12	70	11	60	69
Aug 13	140	13	48	11	53	53
Sep 13	151	12	57	10	67	33
TOTAL	1340		476		521	442

The first column shows the total number of patients selected for review by all three methods for the month. The total of 1,809 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 five columns show:

- The minimum fill count set for the month at which a patient qualified for review.
- The number of patients who met or exceeded the fill count minimum and were selected for review.
- The minimum risk score set for the month at which a patient qualified for review.
- The number of patients who met or exceeded the risk score minimum and were selected for review.
- The number of patients who flagged using targeted intervention criteria 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.

The 1,809 patients reviewed from October 2012 to September 2013 were separated into cohorts based on the month they were reviewed. Figures 7a, 7b, 8a and 8b summarize and categorize the number of patients reviewed each month during this period. The average was 151 patients reviewed per month.

Figure 7a – Summary of Patients Reviewed Each Month from October 2012 to December 2012 (Selected from All Patients)

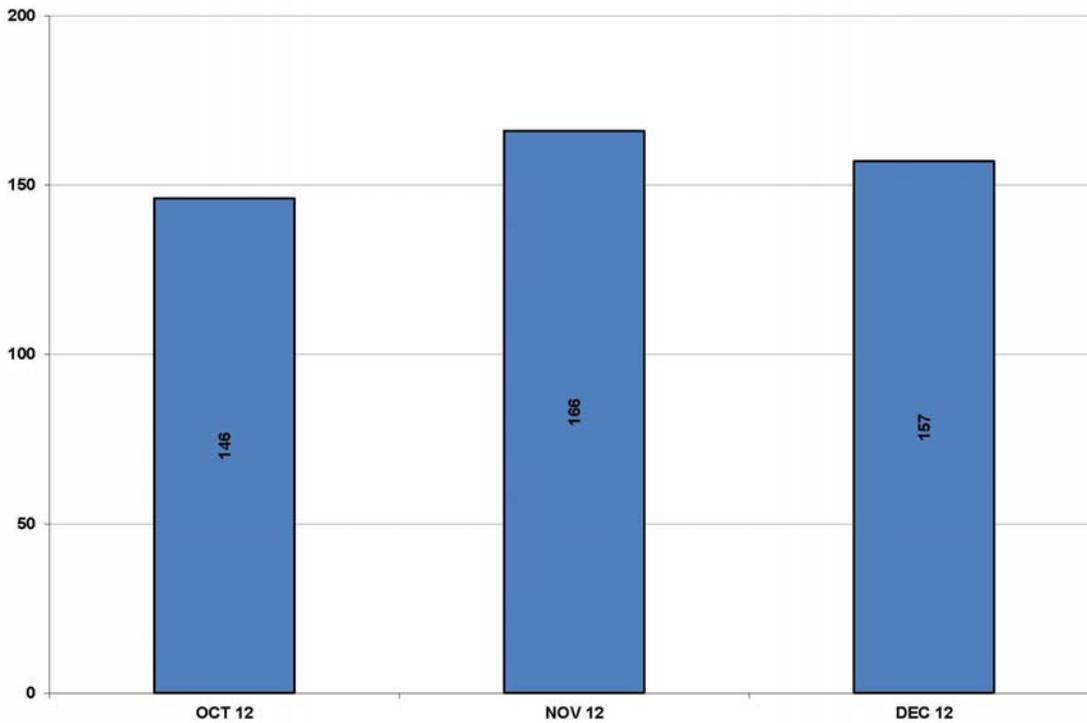


Figure 7b – Summary of Patients Reviewed Each Month from January 2013 to September 2013 (Selected from Non-ACO Patients Only)

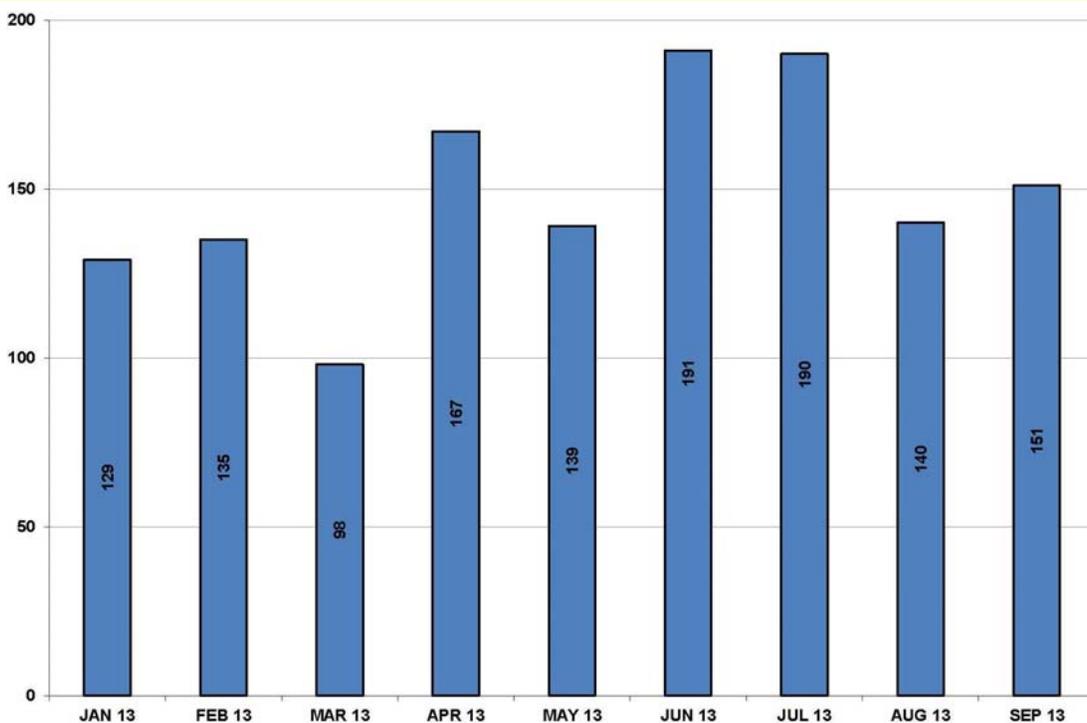


Figure 8a – Patients Reviewed by Selection Method between October 2012 and December 2012 (Selected from All Patients)

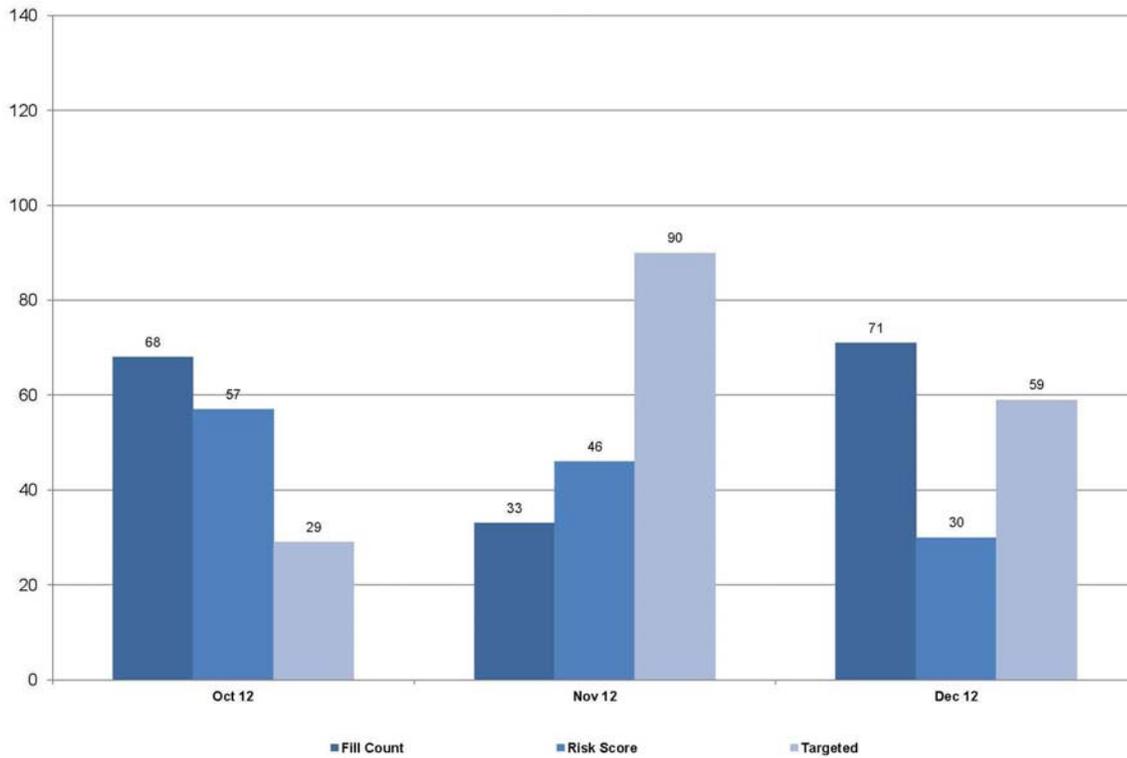
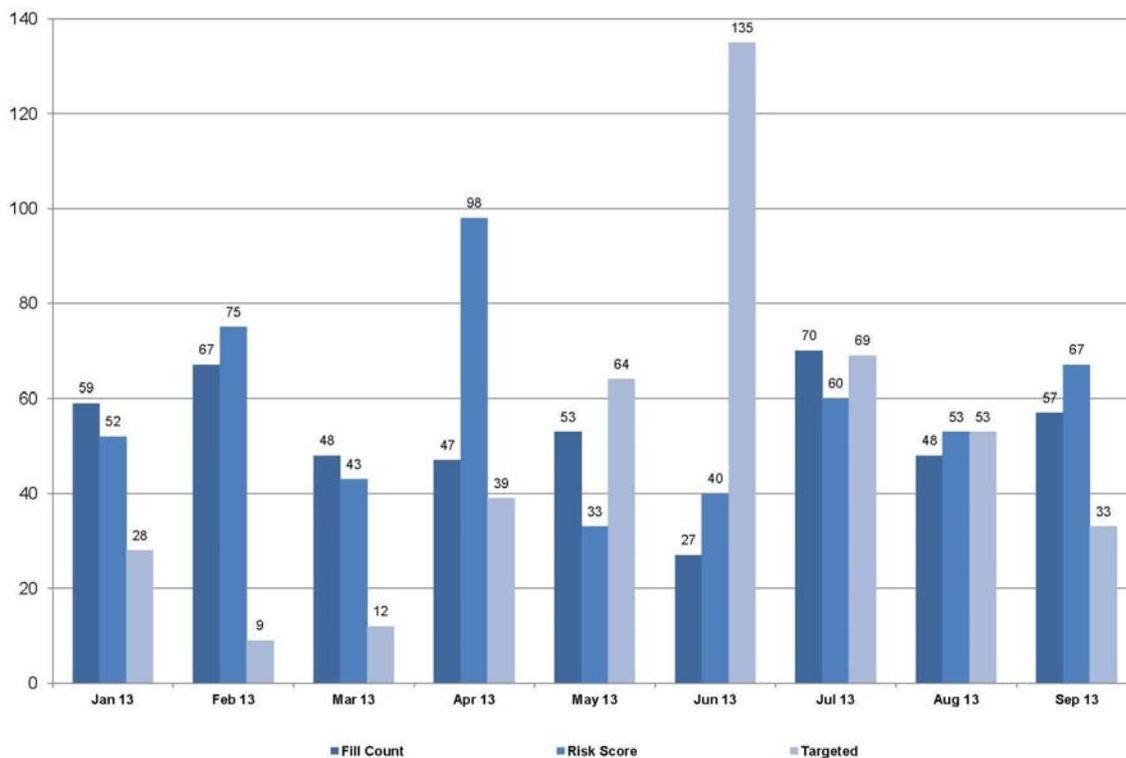


Figure 8b – Patients Reviewed by Selection Method between January 2013 and September 2013 (Selected from Non-ACO Patients Only)



Demographics for all review cohorts are displayed in Tables 7a and 7b, and include gender, average age, average number of prescriptions dispensed, and average cost per prescription. Nursing home patients are not included in these tables.

Reviewed ambulatory patients during the reporting period were predominantly females in their early to mid-40s who filled 9 to 12 prescriptions per month.

Table 7a – Cohort Demographics: Reviewed Patients Selected from Entire Medicaid Population

MONTH	Female				Male			
	Percent	Mean Age	Mean Fill Count	Mean Cost Per Fill	Percent	Mean Age	Mean Fill Count	Mean Cost Per Fill
Oct 12	72	47.8	13.9	56.95	28	45.5	12.7	58.53
Nov 12	66	36.5	10.1	59.19	34	32.9	7.8	135.72
Dec 12	69	43.4	12.7	71.35	31	34.6	10.1	70.68
ALL	69	42.5	12.2	62.47	31	36.9	9.8	85.67

Table 7b – Cohort Demographics: Reviewed Patients Selected from Non-ACO Medicaid Population Only

MONTH	Female				Male			
	Percent	Mean Age	Mean Fill Count	Mean Cost Per Fill	Percent	Mean Age	Mean Fill Count	Mean Cost Per Fill
Jan 13	75	44.9	11.9	59.35	25	28.1	9.7	80.13
Feb 13	63	46.8	11.7	65.34	37	41.6	10.9	83.35
Mar 13	72	47.4	12.1	62.65	28	42.9	11.2	58.25
Apr 13	82	42.2	9.5	97.77	18	38.8	12.2	86.14
May 13	76	50.5	10.6	54.96	24	50.5	9.7	57.36
Jun 13	41	35.3	8.4	79.65	59	17.2	4.1	110.69
Jul 13	76	42.2	8.9	59.00	24	46.2	8.7	95.12
Aug 13	69	43.2	9.2	66.54	31	44.4	9.2	137.04
Sep 13	68	42.6	9.5	62.23	32	47.4	8.9	65.32
ALL	68	43.8	10.1	67.41	32	35.9	8.4	87.04

Figures 9a and 9b show 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 6 to 14, while the maximum number of prescriptions for a reviewed patient exceeded 35.

Figure 9a – Average, Minimum and Maximum Number of Prescriptions: Reviewed Patients Selected from Entire Medicaid Population

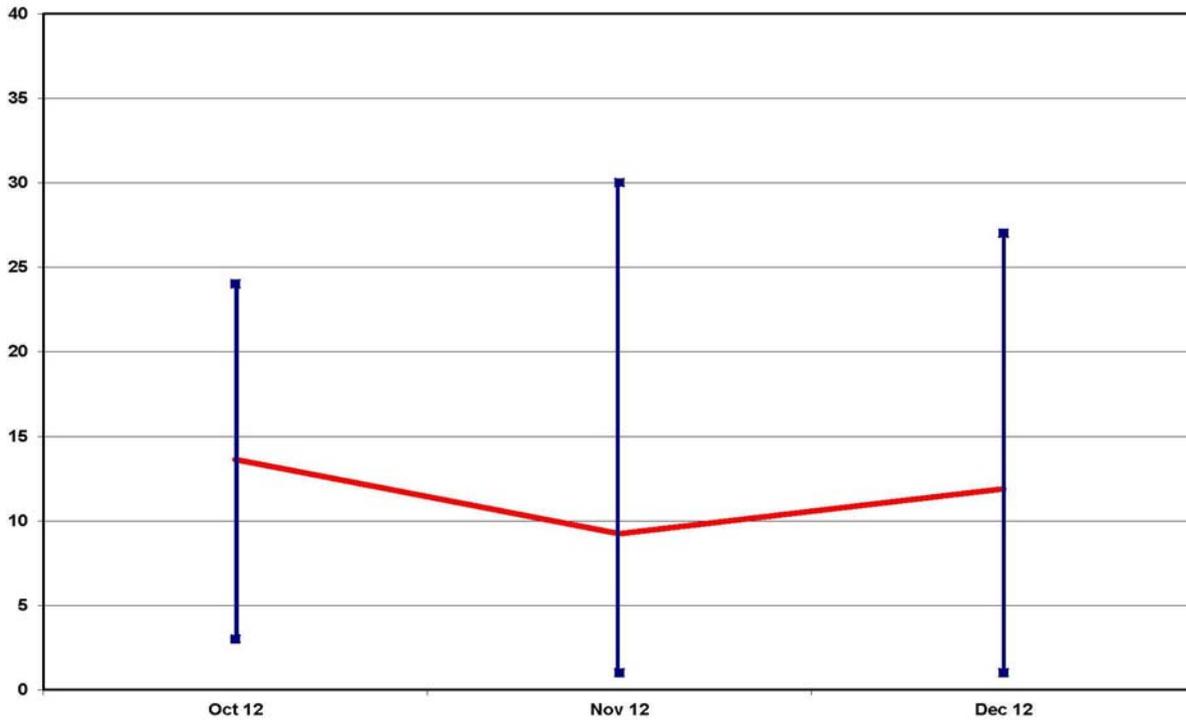
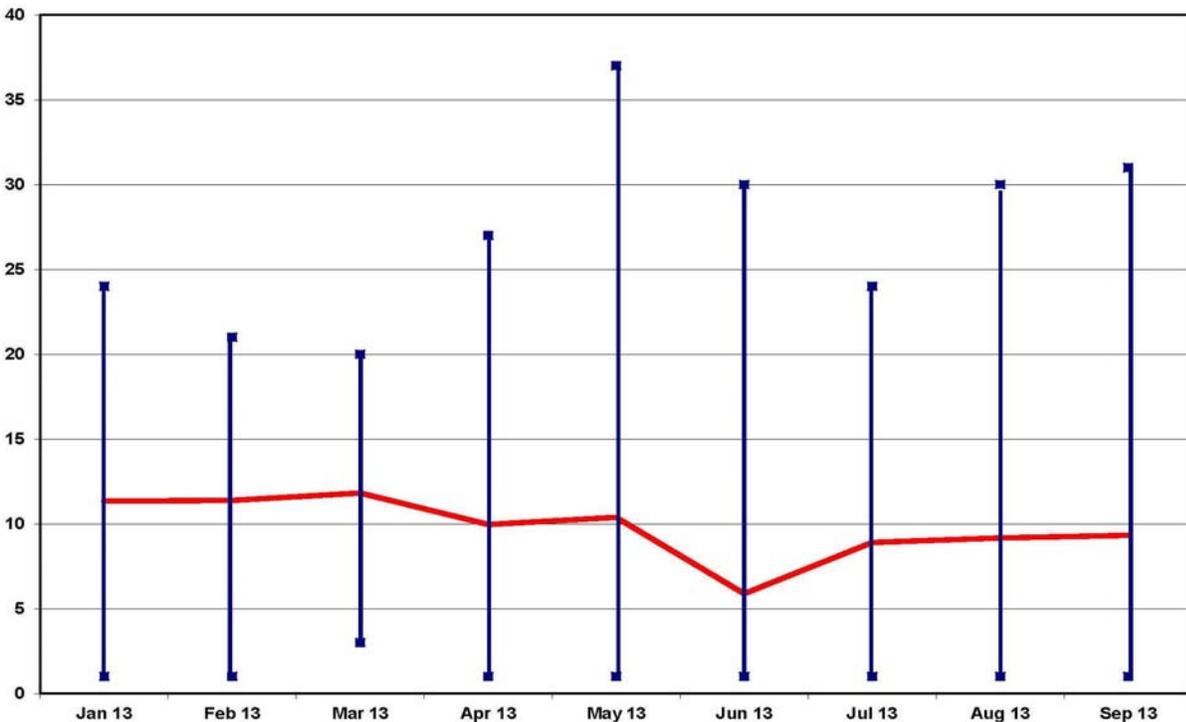


Figure 9b – Average, Minimum and Maximum Number of Prescriptions: Reviewed Patients Selected from Non-ACO Medicaid Population Only



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

A 60-year-old female was flagged for review because she received 20 chronic prescriptions from a single provider with diagnoses including diabetes, bipolar disorder, asthma, dementia and chronic pain. The DRRC made four recommendations for this patient. Two were related to drug interactions, one addressed the duration of medication use, and one urged addition of a drug.

The patient was receiving benztropine and an extended release potassium supplement. Benztropine can cause slowing in the gastrointestinal tract. If a potassium supplement passes through the gastrointestinal tract too slowly it can cause ulcerations and bleeding. The DRRC recommendation was to discontinue either or both drugs. The patient was also receiving amlodipine and simvastatin at a high dose. When amlodipine and simvastatin are used concurrently, the dose of simvastatin should not exceed 20 mg. At the time of review, the patient's dose was 40 mg. The patient had been receiving an iron supplement for more than six months, and long-term iron therapy was discouraged. Finally, the patient's pain management regimen included the chronic use of ibuprofen. Given her age and the damage that ibuprofen can do to the stomach, a proton-pump inhibitor was suggested for gastrointestinal protection.

When a follow up review was completed, the benztropine, potassium and iron were discontinued. The simvastatin dose was decreased to the recommended 10 mg and omeprazole, a proton pump inhibitor, had been added to the medication regimen. The patient's regularly scheduled medications had been reduced from 20 to twelve.

PATIENT 2

A 46-year-old male with diagnoses for hypertension, chest pain and obstructive bronchitis was flagged for review because he was receiving 25 medications from three different prescribers practicing in different clinics, with several duplications in drug therapy. The DRRC made each of the prescribers aware of the patient's extensive drug regimen and recommended that fewer prescribers be involved in his care in an attempt to eliminate duplications in therapy, drug interactions, and incomplete disease monitoring. Additionally, a number of medications were being prescribed without an appropriate indication, including imipramine and gabapentin. Recommendations were made to re-evaluate the patient's needs and determine whether these medications were appropriate.

When a follow up review was completed, the patient was only receiving 15 medications, imipramine and gabapentin had been discontinued and one prescriber was handling all of his care. These changes not only had an impact on cost, but also made the patient's drug regimen more manageable, decreasing the risk of potential drug interactions, increasing the likelihood of compliance and providing for the patient's general wellbeing.

PATIENT 3

A 31-year-old female with a history of drug abuse was flagged for review because she was receiving many different opioids from several prescribers. The DRRC recommended that her care be coordinated and consolidated. When a follow up review was completed, she was being managed by a single provider and receiving a single opioid.

PATIENT 4

A 53-year-old female was flagged for review because she was receiving an 8000 mg daily dose of gabapentin. The DRRC recommended a reduction in daily dose. When a follow up review was completed, the dose had been reduced to a more appropriate level of 900 mg per day.

PROGRAM EFFECTIVENESS: PRESCRIPTIONS

Figures 10a and 10b show the average number of prescription fills per patient, by selection method, for all reviews done between October 2012 and December 2012, compared to the average number of prescriptions filled by the same patients in December 2012; and the average number of prescription fills per patient, by selection method, for all reviews done between January 2013 and September 2013, compared to the average number of prescriptions filled by the same patients at the end of the current reporting period in September 2013.

Figure 10a – Average Fills by Selection Method: Month of Review Compared with December 2012 (Reviewed Patients Selected from Entire Medicaid Population)

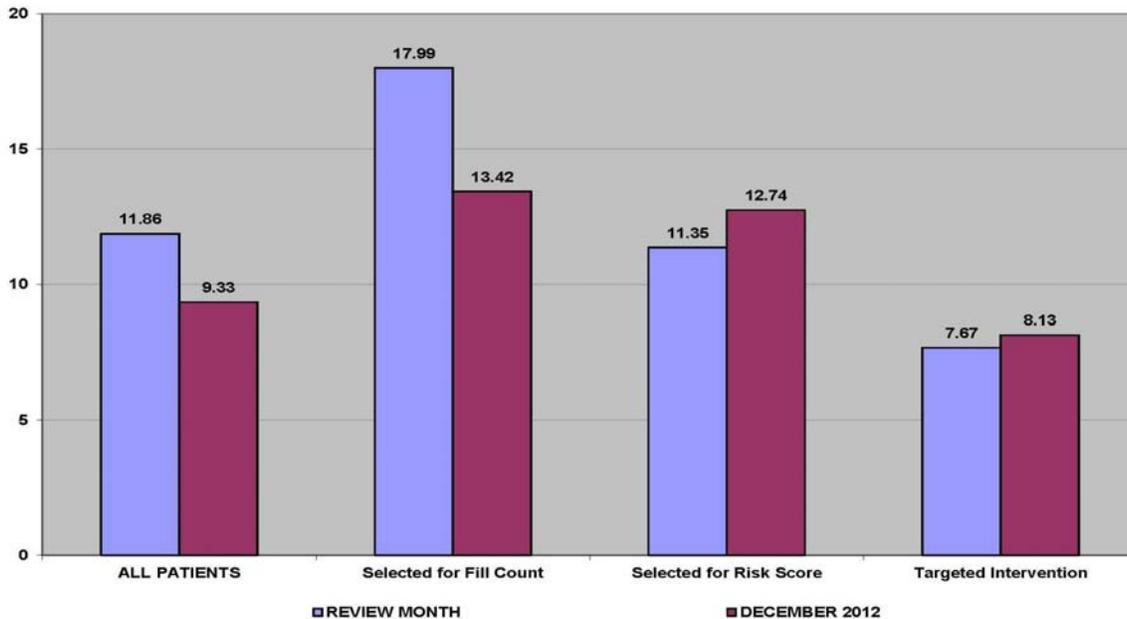
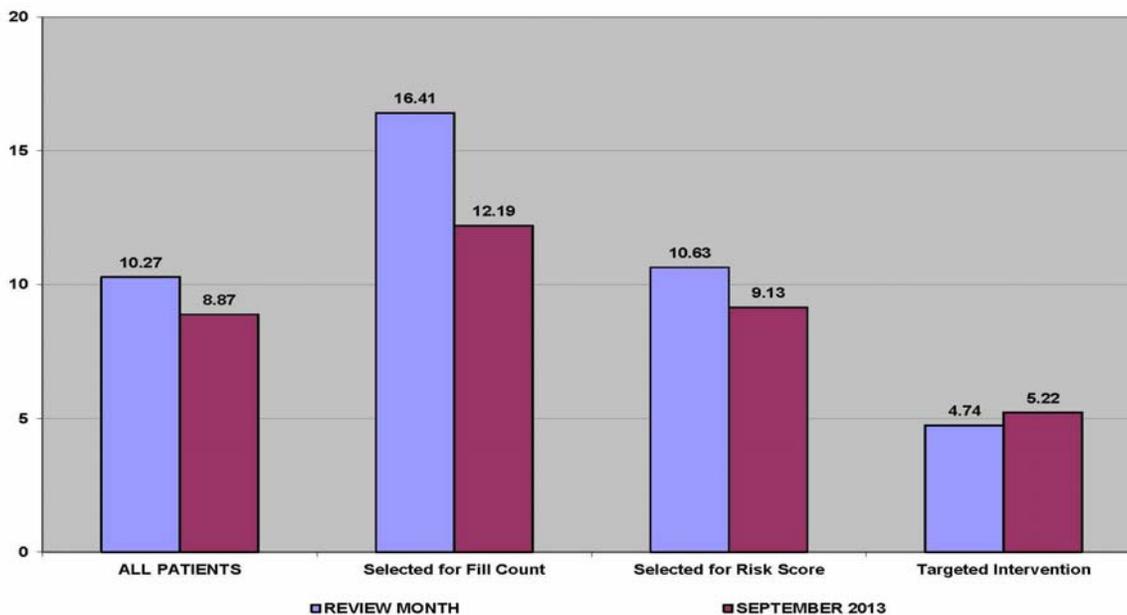


Figure 10b – Average Fills by Selection Method: Month of Review Compared with September 2013 (Reviewed Patients Selected from Non-ACO Medicaid Population Only)



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

Figures 11a, 11b, 12a and 12b show the average number of prescriptions per reviewed patient for each month between October 2012 and December 2012, compared to the average number of prescriptions for the same patients in December 2012; and the average number of prescriptions per reviewed patient for each month between January 2013 and September 2013, compared to the average number of prescriptions for the same patients at the end of the current reporting period in September 2013.

Figure 11a – Average Fills during Review Month Compared with December 2012: Reviewed Patients Selected for Any Reason from Entire Medicaid Population

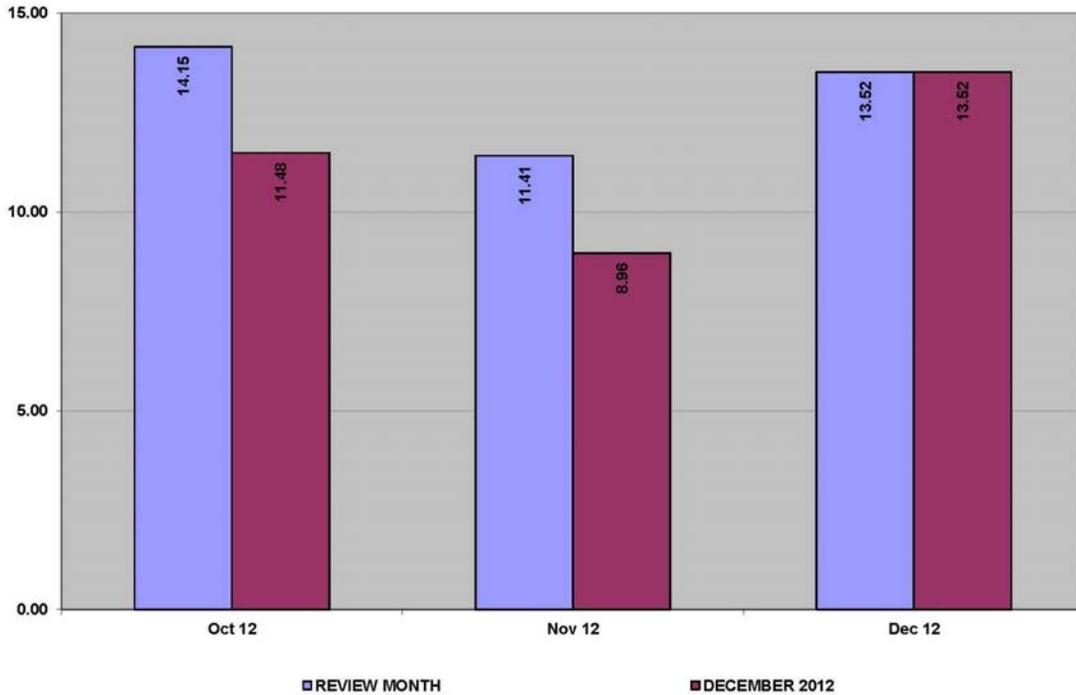


Figure 11b – Average Fills during Review Month Compared with September 2013: Reviewed Patients Selected for Any Reason from Non-ACO Medicaid Population Only

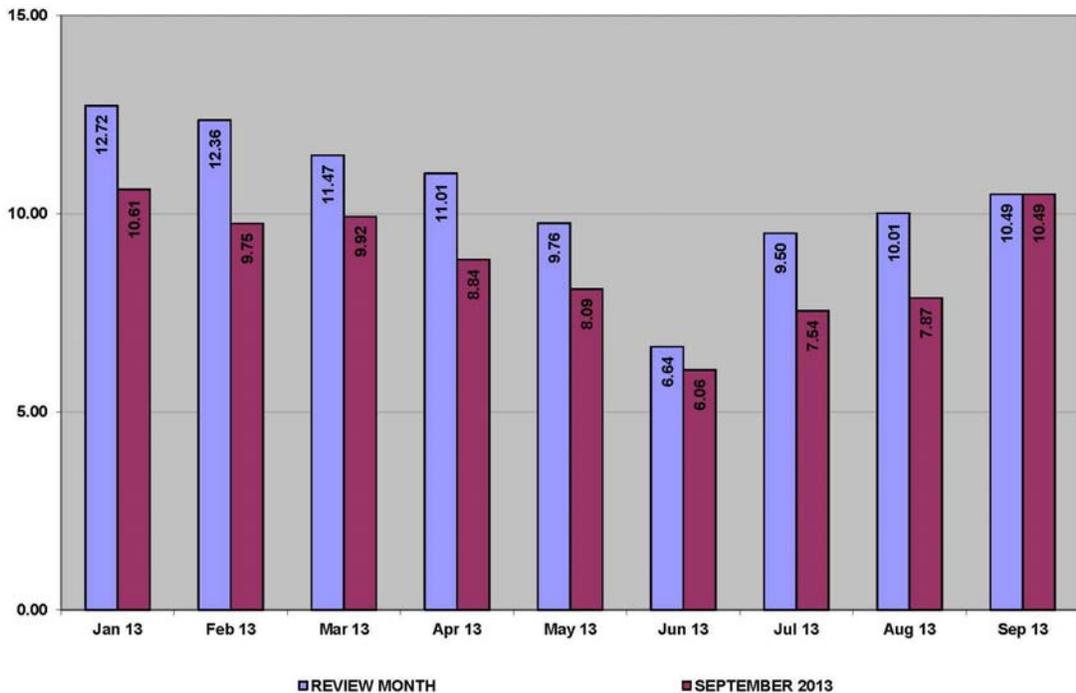


Figure 12a – Average Fills during Review Month Compared with December 2012: Reviewed Patients Selected for Fill Count from Entire Medicaid Population

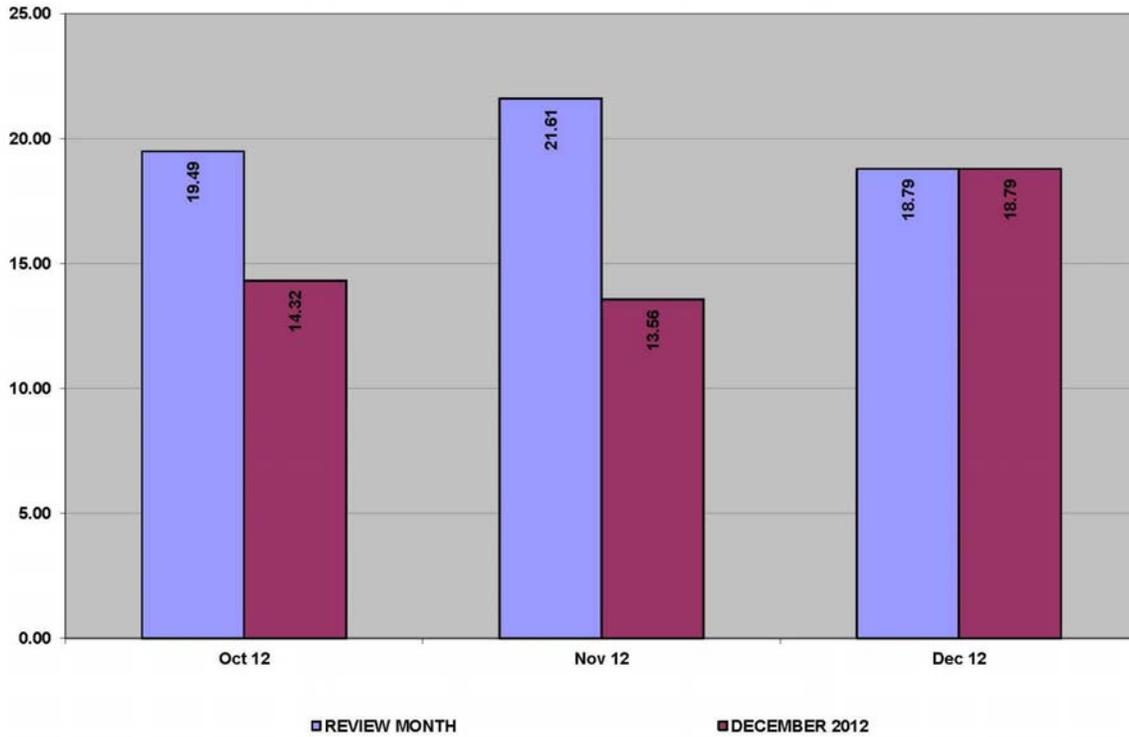
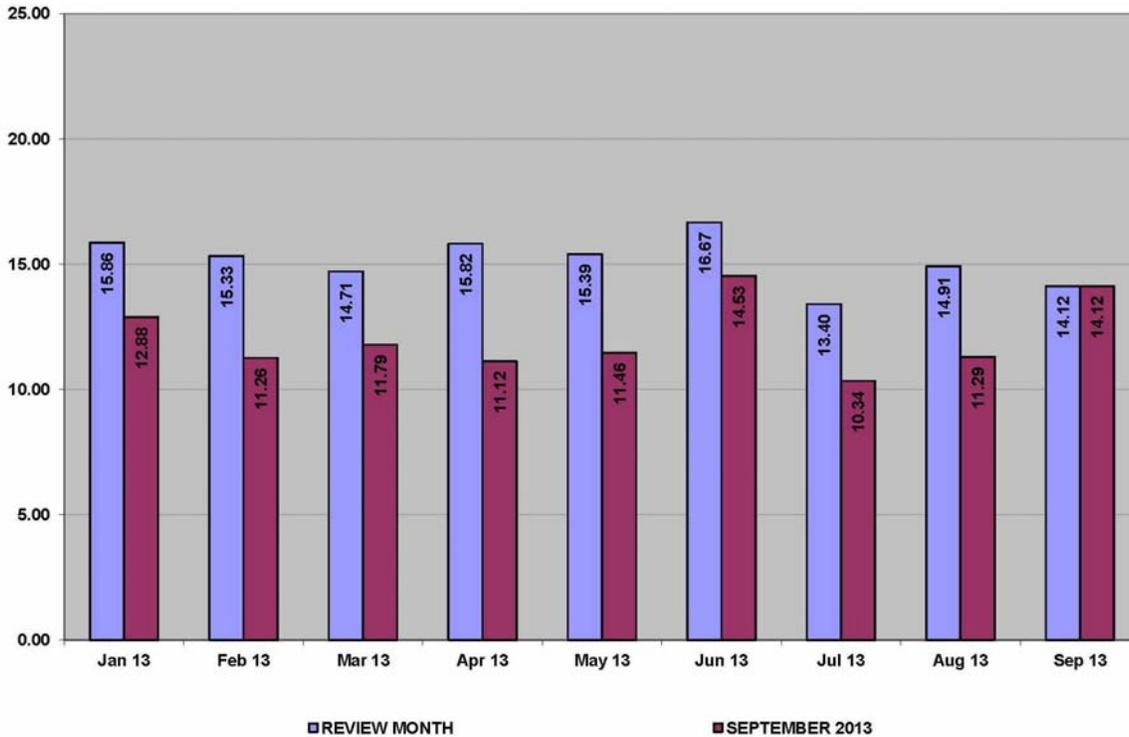


Figure 12b – Average Fills during Review Month Compared with September 2013: Reviewed Patients Selected for Fill Count from Non-ACO Medicaid Population Only



PROGRAM EFFECTIVENESS: RISK

Figures 13a and 13b show the average risk score per patient, by selection method, for all reviews done between October 2012 and December 2012, compared to the average risk score for the same patients in December 2012; and the average risk score per patient, by selection method, for all reviews done between January 2013 and September 2013, compared to the average risk score for the same patients at the end of the current reporting period in September 2013.

Figure 13a – Average Risk Score by Selection Method: Month of Review Compared with December 2012 (Reviewed Patients Selected from Entire Medicaid Population)

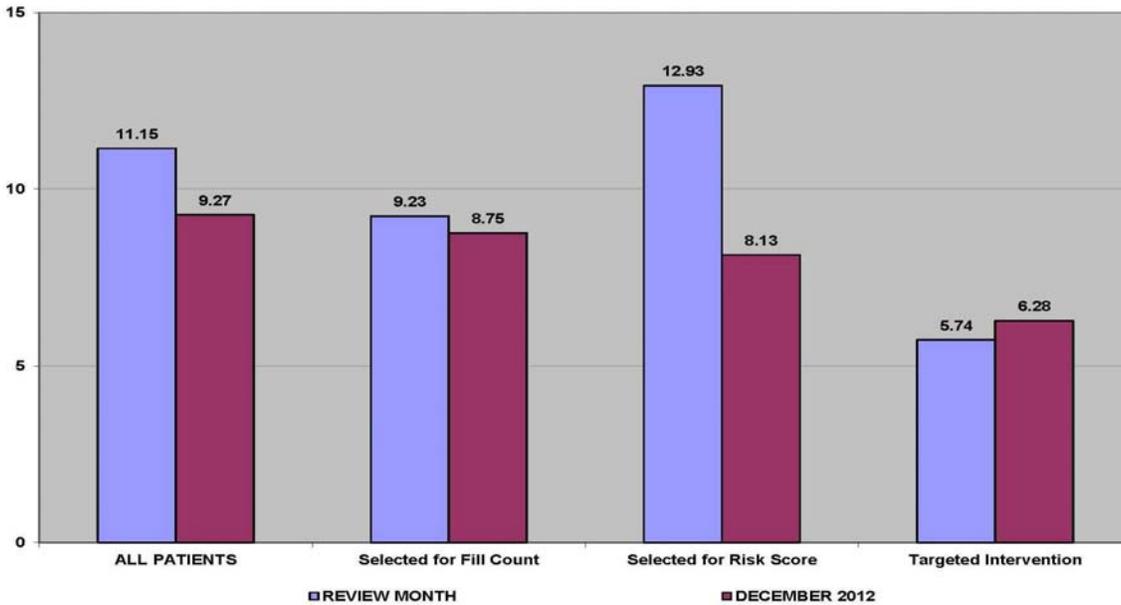
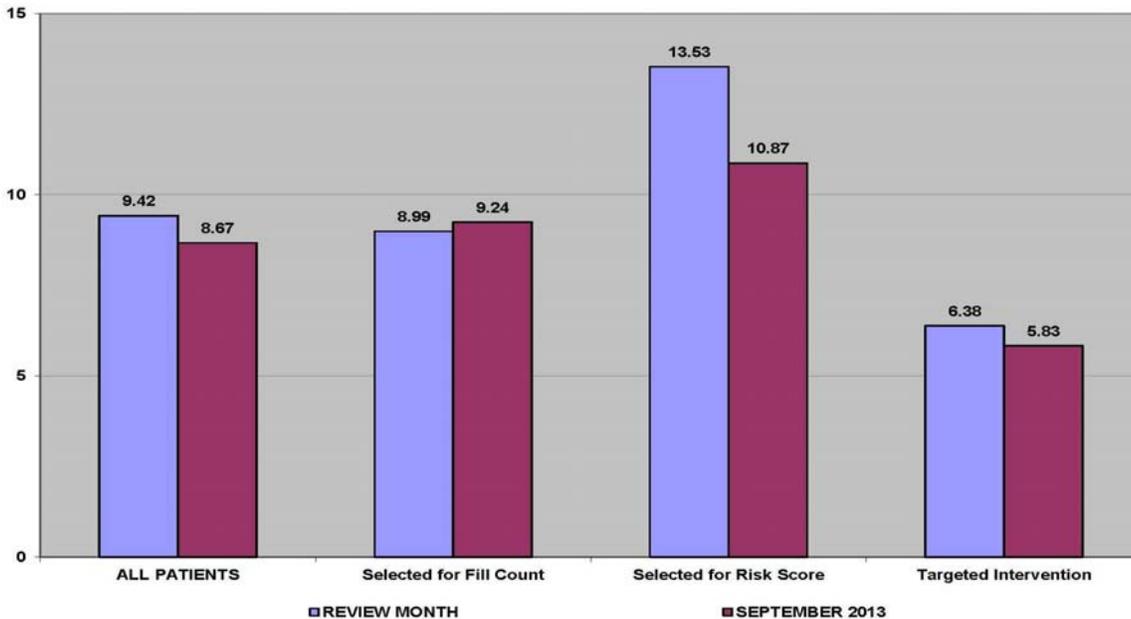


Figure 13b – Average Risk Score by Selection Method: Month of Review Compared with September 2013 (Reviewed Patients Selected from Non-ACO Medicaid Population Only)



The largest reduction in risk scores was seen in patients selected on the basis of risk score.

Figures 14a, 14b, 15a and 15b show the average risk score per reviewed patient for each month between October 2012 and December 2012, compared to the average risk score for the same patients in December 2012; and the average risk score per reviewed patient for each month between January 2013 and September 2013, compared to the average risk score for the same patients at the end of the current reporting period in September 2013.

Figure 14a – Average Risk Score during Review Month Compared with December 2012: Reviewed Patients Selected for Any Reason from Entire Medicaid Population

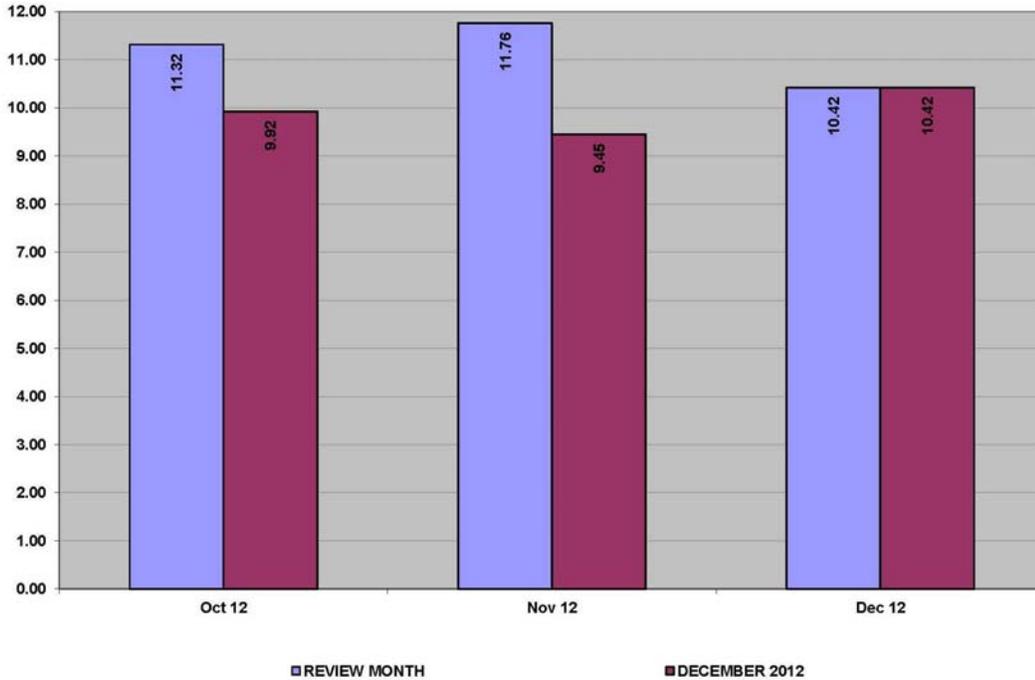


Figure 14b – Average Risk Score during Review Month Compared with September 2013: Reviewed Patients Selected for Any Reason from Non-ACO Medicaid Population Only

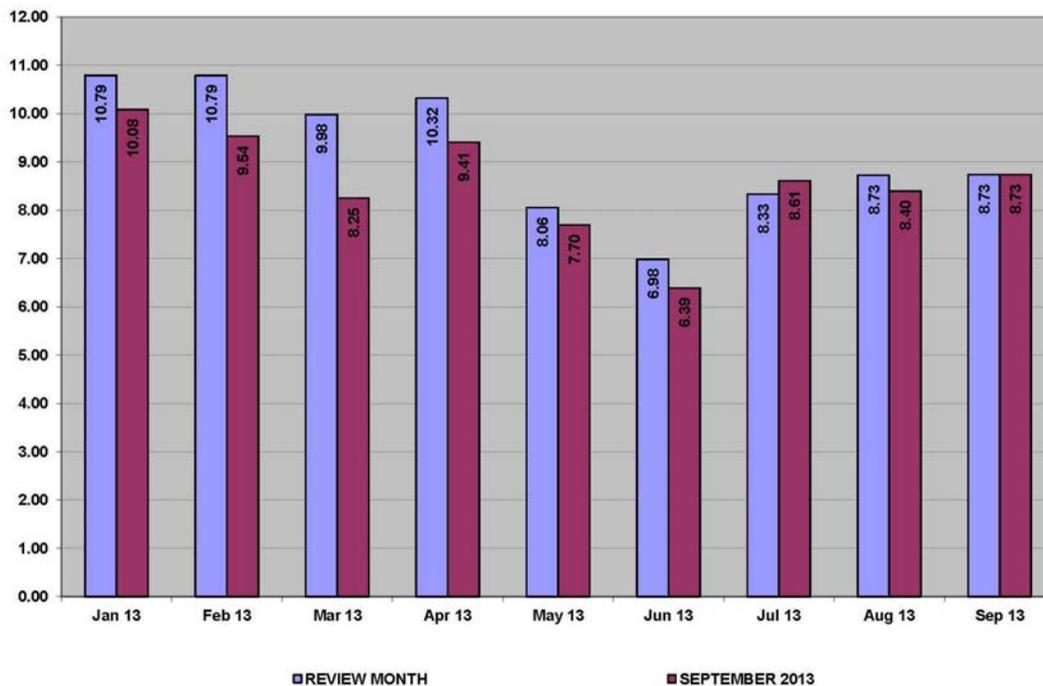


Figure 15a – Average Risk Score during Review Month Compared with December 2012: Reviewed Patients Selected for Risk Score from Entire Medicaid Population

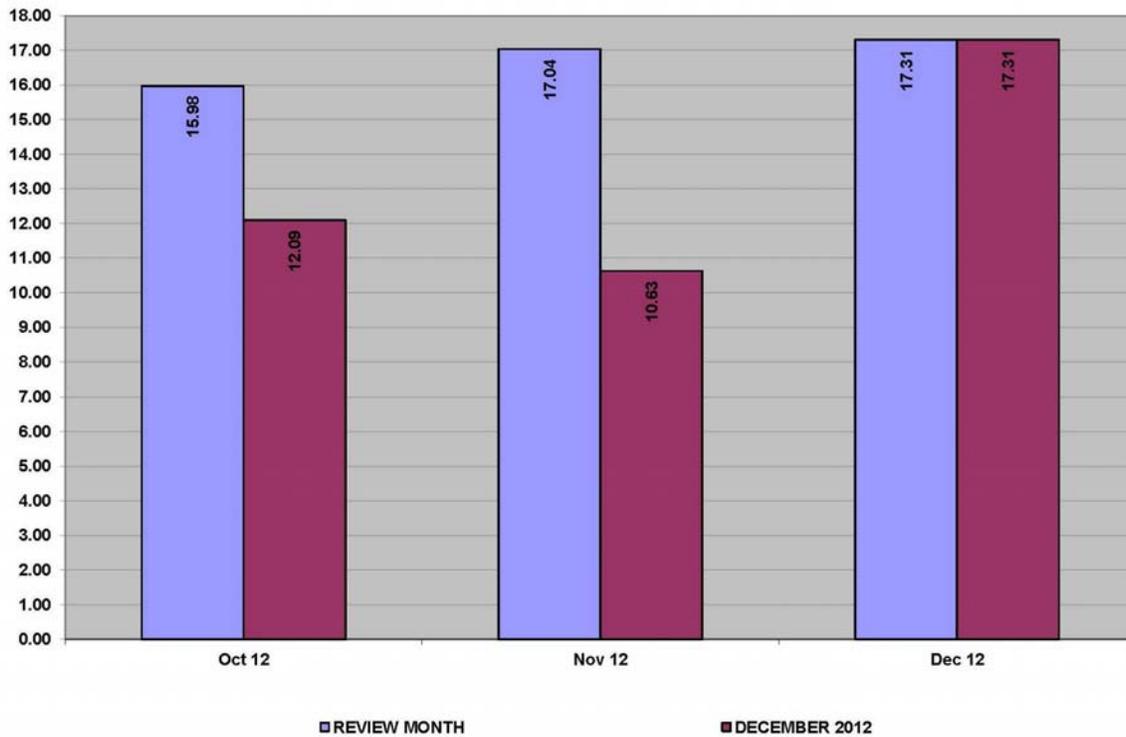
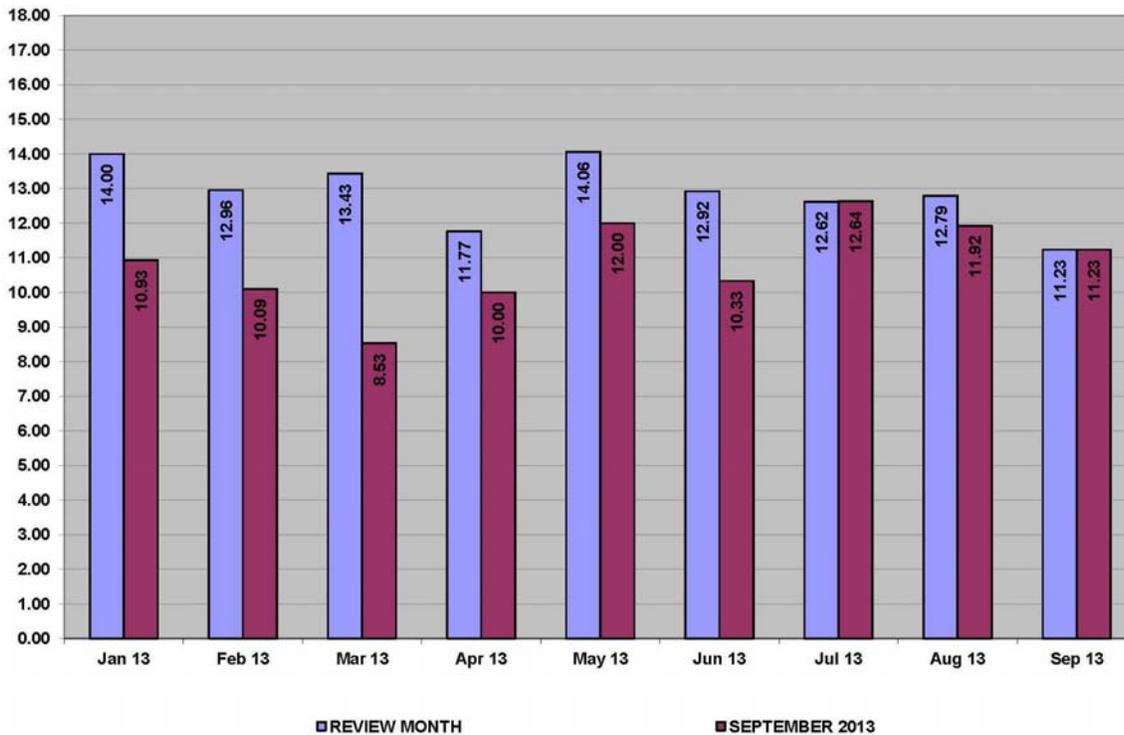


Figure 15b – Average Risk Score during Review Month Compared with September 2013: Reviewed Patients Selected for Risk Score from Non-ACO Medicaid Population Only



PROGRAM EFFECTIVENESS: COST

Tracking the Drug Costs of Reviewed Medicaid Patients

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. Patients selected from the non-ACO Medicaid population after December 2012 were only tracked if they did not subsequently enroll in an ACO prior to October 2013.

Decreases were seen in drug costs for these selected patients, some significant. Because we eliminated patients who did not receive subsequent prescriptions, these estimates are conservative.

For each patient reviewed between October 2012 and September 2013, total drug cost during the review month was used as the baseline amount for comparison. These baseline amounts were compared with the drug costs for each subsequent month up until September 2013. For example, costs in May 2013 were compared with costs in June 2013, July 2013, August 2013 and September 2013 for those patients reviewed during May 2013. Additional cost savings for patients reviewed before October 2012 are not included, nor are additional savings that would be expected after September 2013 for patients included in this report.

Assuming total Medicaid drug costs should remain constant after the month of review, drug costs for patients reviewed from October 2012 through September 2013 decreased by \$934,776.

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.

SEE APPENDIX A

APPENDIX A

COSTS FOR REVIEWED PATIENTS ELIGIBLE AND UTILIZING RX BENEFITS ENTIRE REPORTING PERIOD: Selected from Entire Medicaid Population

	Oct 12	Nov 12	Dec 12	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	TOTAL	PROJECTED	SAVINGS
Oct 12	105,013	78,301	80,614	69,454	65,018	72,140	70,770	77,507	66,773	83,180	76,125	83,454	928,349	1,260,155	331,807
Nov 12		75,440	65,370	74,531	54,420	78,700	88,206	75,582	62,807	82,758	65,747	68,554	792,114	829,835	37,721
Dec 12			117,922	83,721	67,945	79,240	76,744	82,459	72,136	79,218	89,041	77,277	825,705	1,179,224	353,519
													2,546,168	3,269,215	723,047

PATIENTS 104 79 93

*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

	Oct 12	Nov 12	Dec 12	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	TOTAL	PROJECTED	SAVINGS
Oct 12	1,010	753	775	668	625	694	680	745	642	800	732	802	8,926	12,117	3,190
Nov 12		955	827	943	689	996	1,117	957	795	1,048	832	868	10,027	10,504	477
Dec 12			1,268	900	731	852	825	887	776	852	957	831	8,879	12,680	3,801

COSTS FOR REVIEWED PATIENTS ELIGIBLE AND UTILIZING RX BENEFITS ENTIRE REPORTING PERIOD: Selected from Non-ACO Medicaid Population Only

	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	TOTAL	PROJECTED	SAVINGS
Jan 13	69,910	58,710	62,465	66,190	67,923	60,640	71,671	68,574	59,028	585,112	629,193	44,081
Feb 13		86,298	70,453	79,874	80,995	77,990	79,070	92,164	77,442	644,286	690,381	46,095
Mar 13			42,368	37,294	38,817	30,231	38,548	42,443	36,857	266,559	296,574	30,016
Apr 13				74,921	66,026	73,062	77,529	89,794	72,166	453,497	449,524	-3,973
May 13					57,628	40,016	44,588	56,030	45,742	244,004	288,142	44,138
Jun 13						70,915	72,158	65,229	71,313	279,615	283,659	4,044
Jul 13							79,002	73,010	57,963	209,975	237,006	27,031
Aug 13								109,736	89,440	199,176	219,473	20,296
Sep 13									66,748			
									TOTAL	2,882,224	3,093,953	211,729

PATIENTS

77 89 54 94 90 109 110 91 83

*Total number from each monthly review cohort remaining eligible for AND utilizing prescription drug benefits, and not enrolled in an ACO, during the entire nine-month period.

AVERAGE PER PATIENT

	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	TOTAL	PROJECTED	SAVINGS
Jan 13	908	762	811	860	882	788	931	891	767	7,599	8,171	572
Feb 13		970	1,305	850	900	716	719	1,013	933	7,404	7,757	353
Mar 13			785	691	719	560	714	786	683	4,936	5,492	556
Apr 13				797	702	777	825	955	768	4,824	4,782	-42
May 13					640	445	495	623	508	2,711	3,202	490
Jun 13						651	662	598	654	2,565	2,602	37
Jul 13							718	664	527	1,909	2,155	246
Aug 13								1,206	983	2,189	2,412	223
Sep 13									804			



Utah Department of Health and University of Utah College of Pharmacy
UTAH MEDICAID DRUG REGIMEN REVIEW CENTER

SUPPLEMENTAL REPORT:
JULY 2012 - SEPTEMBER 2012

The Utah Medicaid Drug Regimen Review Center
L.S. Skaggs Pharmacy Research Institute #105
30 South 2000 East, Salt Lake City, Utah 84112

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APPENDIX A-S: Savings

SPECIAL SUPPLEMENT: ANNUAL REPORTING PERIOD ADJUSTED IN 2013

In an effort to be consistent with the federal fiscal year and reporting period, the Utah Medicaid annual reporting period was changed from July 2012 through June 2013 to October 2012 through September 2013. This supplement to the re-formatted 2013 Annual Report covers the interim period between July 2012 and September 2012.

SELECTION CRITERIA

Table 1S summarizes the variable rules that have been used each month during the interim reporting period.

Table 1S – Criteria Used for Targeted Patient Interventions between July 2012 and September 2012

JUL 12

DEFINITION	Patients who were started on a PPI during a recent hospital stay.
PURPOSE	To identify patients who were started on a PPI for stress prophylaxis during a hospital stay and do not need continued PPI therapy.

AUG 12

DEFINITION	Patients 18 years of age and older who were started on a PPI during a recent hospital stay.
PURPOSE	To identify patients over 17 years of age who were started on a PPI for stress prophylaxis during a hospital stay and do not need continued PPI therapy.

SEP 12

DEFINITION	Patients who received prescriptions for at least two drugs that prolong the QT interval, or increase the risk of Torsades de Pointes, during the month of review.
PURPOSE	To identify patients at increased risk for QT prolongation and serious life-threatening arrhythmias or cardiovascular effects due to concomitant use of at least two QT prolonging drugs.

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

PRESENTATIONS AND REPORTS

Tables 2S and 3S summarize the research done for DUR Board presentations and Pharmacy & Therapeutics (PT) Committee reports between July 2012 and September 2012.

Table 2S – Drug Utilization Review (DUR) Board Presentations Produced by the Utah Medicaid Drug Regimen Review Center

Month	Topic	Description
AUG 12	Amiodarones and Other QT Prolonging Drugs	Assisted the DUR board in determining whether limitations should be placed on the concomitant use of high-risk QT prolonging drugs, in order to reduce the risk of sudden death and cardiac arrhythmias secondary to QT prolongation and Torsades de Pointes (TdP). Provided the DUR board with information regarding QD (once-daily) drug pricing.
SEP 12	Citalopram and Ondansetron	Assisted the DUR board in determining whether limitations should be placed on citalopram and ondansetron to ensure dosing adjustments are made for patients requiring treatment with citalopram. Provided the DUR board with information, based on FDA recommendations, regarding dose-related QT prolongation and Torsades de Pointes (TdP).

Table 3S – Pharmacy & Therapeutics (PT) Committee Reports Produced by the Utah Medicaid Drug Regimen Review Center

Month	Topic	Agents	Documents Provided
JUL 12	Sedative Hypnotic Barbiturates in Procedural Sedation	Amobarbital, Methohexital, Secobarbital, Thiopental	Class review, utilization data and list of all available agents and dosage forms.
JUL 12	Sedative Hypnotic Benzodiazepines in Procedural Sedation	Chlordiazepoxide, Diazepam, Lorazepam, Midazolam	Class review, utilization data and list of all available agents and dosage forms.
AUG 12	Antineoplastic Urinary Tract Protective Agents	Amifostine, Mesna	Class review, utilization data and list of all available agents and dosage forms.
AUG 12	Antineoplastic Mitotic Inhibitors	Cabazitaxel, Docetaxel, Estramustine, Ixabepilone, Paclitaxel, Vinblastine, Vincristine, Vinorelbine	Class review, utilization data and list of all available agents and dosage forms.
SEP 12	Antineoplastic Tyrosine Kinase Inhibitors	Crizotinib, Dasatinib, Erlotinib, Gefitinib, Imatinib, Lapatinib, Nilotinib, Pazopanib, Ruxolitinib, Sorafenib, Sunitinib, Vandetanib	Class review, utilization data and list of all available agents and dosage forms.

PROGRAM BACKGROUND

The total number of claims increased from 214,741 to 218,575 per month (1.79%) during the period from July 2012 to September 2012. Drug costs, however, decreased from \$14,187,093 to \$13,448,634 per month (5.21%) during this same period.

Figures 1S and 2S show the total number of Medicaid pharmacy claims and the total cost of these claims for each month during the reporting period from July 2012 to September 2012.

Figure 1S – Total Medicaid Drug Claims by Month from July 2012 to September 2012

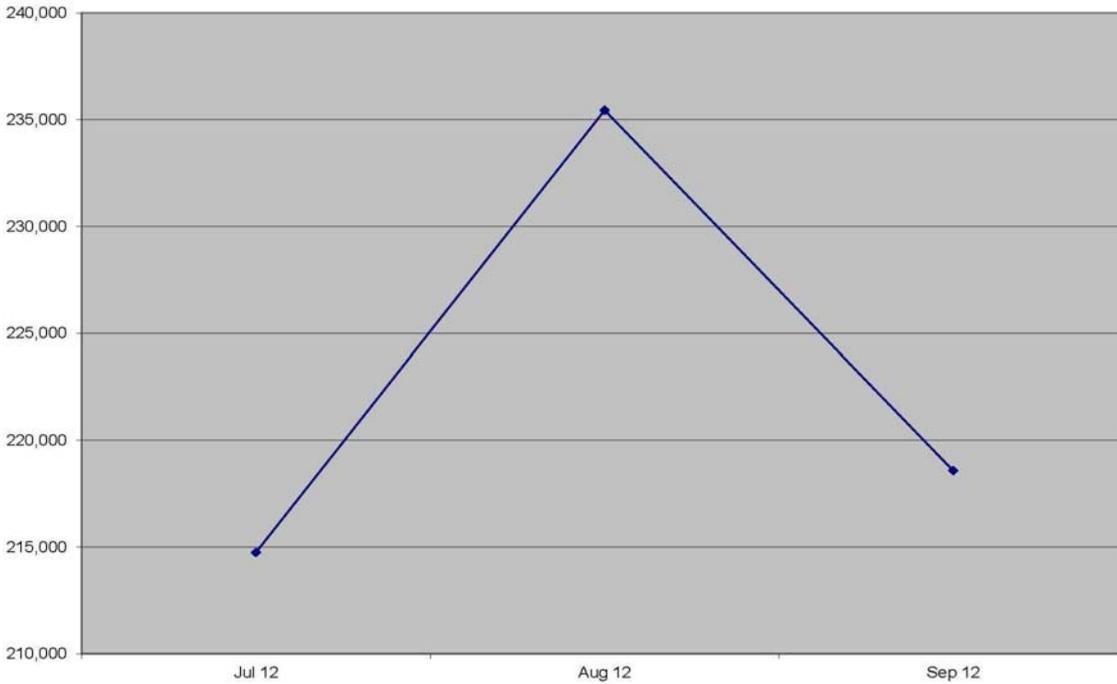
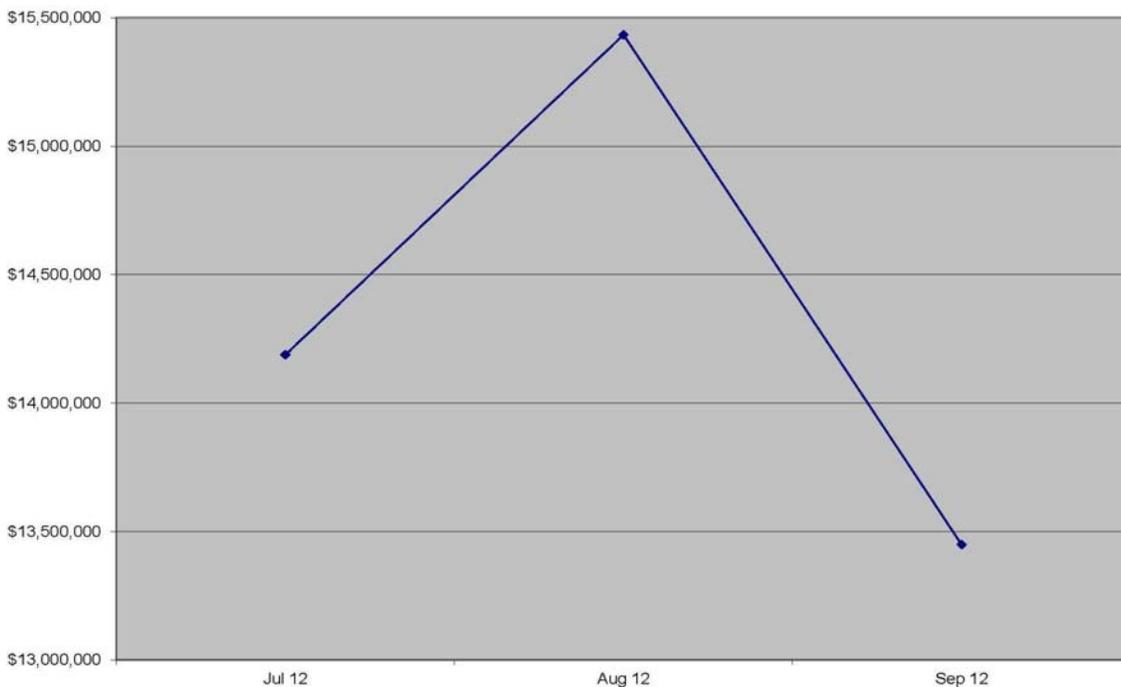


Figure 2S – Total Medicaid Drug Claim Costs by Month from July 2012 to September 2012



PROGRAM SUMMARY

Table 4S and Figure 3S summarize the drug related problems identified in the reports sent to prescribers between July 2012 and September 2012.

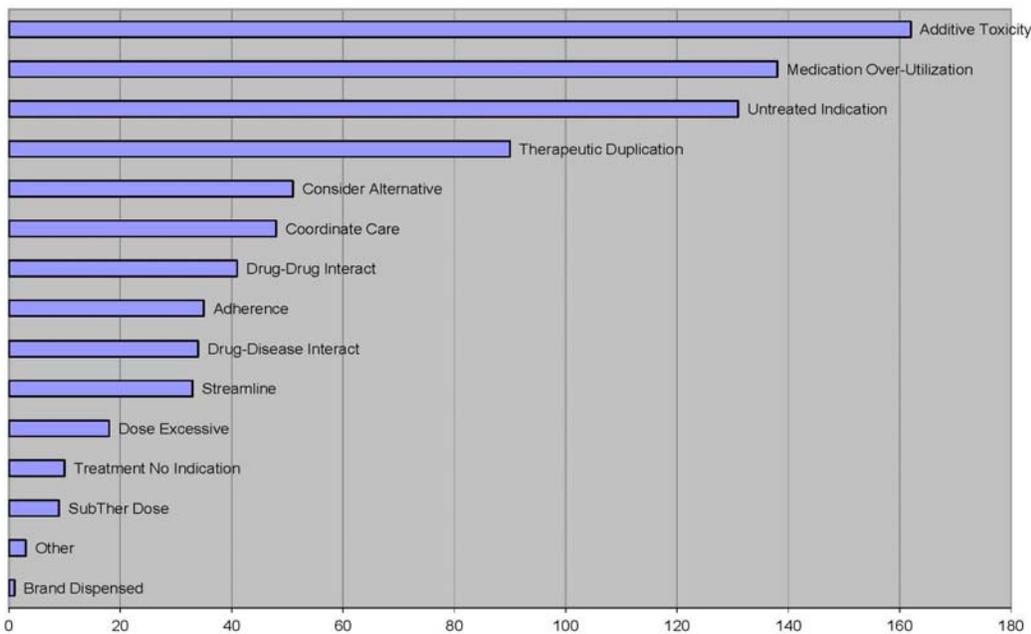
Total Letters Sent: **594**

Total Identified Drug Related Problems (DRP): **804**

Table 4S – Drug Related Problems Identified and Reported between July 2012 and September 2012

Additive Toxicity	162
Medication Over-Utilization	138
Untreated Indication	131
Therapeutic Duplication	90
Consider Alternative	51
Coordinate Care	48
Drug-Drug Interaction	41
Adherence	35
Drug-Disease Interaction	34
Streamline	33
Dose Excessive	18
Treatment with No Indication	10
Sub-Therapeutic Dose	9
Other	3
Brand Dispensed	1

Figure 3S – Drug Related Problems Identified and Reported: July 2012 to September 2012



The most common drug therapy problems identified in the current reporting year were additive toxicity, or the concomitant use of medications with similar pharmacodynamic actions that may produce excessive pharmacologic or toxic effects when given together; and medication over-utilization, or the frequent use of a medication or class of medications that are intended for acute treatment and not at frequent intervals.

DEMOGRAPHICS

Patients were selected for review based on three different criteria: 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 1S above.

Table 5S – Patient Selection between July 2012 and September 2012

	Total	Fill Value	Fill Count	Score Value	Rx Risk [®] Score	Variable Rule
Jul 13	110	18	59	16	42	18
Aug 13	153	18	73	15	75	14
Sep 13	158	19	30	16	28	106
TOTAL	421		162		145	138

The first column shows the total number of patients selected for review by all three methods for the month. The total of 421 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 five columns show:

- The minimum fill count set for the month at which a patient qualified for review.
- The number of patients who met or exceeded the fill count minimum and were selected for review.
- The minimum risk score set for the month at which a patient qualified for review.
- The number of patients who met or exceeded the risk score minimum and were selected for review.
- The number of patients who flagged using targeted intervention criteria and were selected for review.

The 421 patients reviewed from July 2012 to September 2012 were separated into cohorts based on the month they were reviewed. Figures 4S and 5S summarize and categorize the number of patients reviewed each month during this period. The average was 140 patients reviewed per month.

Figure 4S – Summary of Patients Reviewed Each Month from July 2012 to September 2012

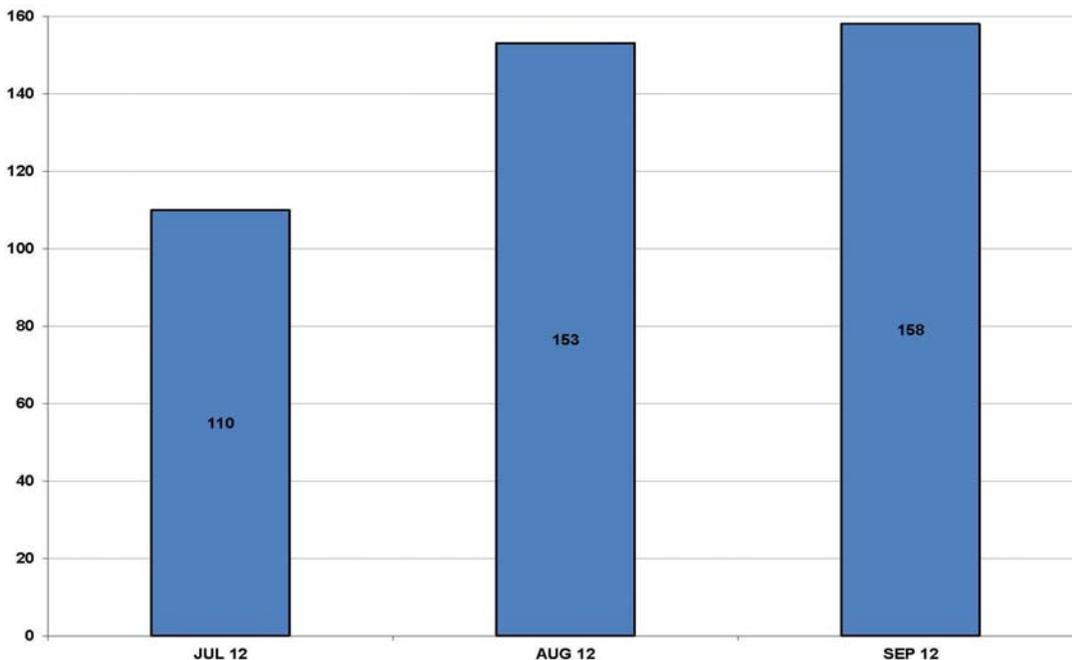
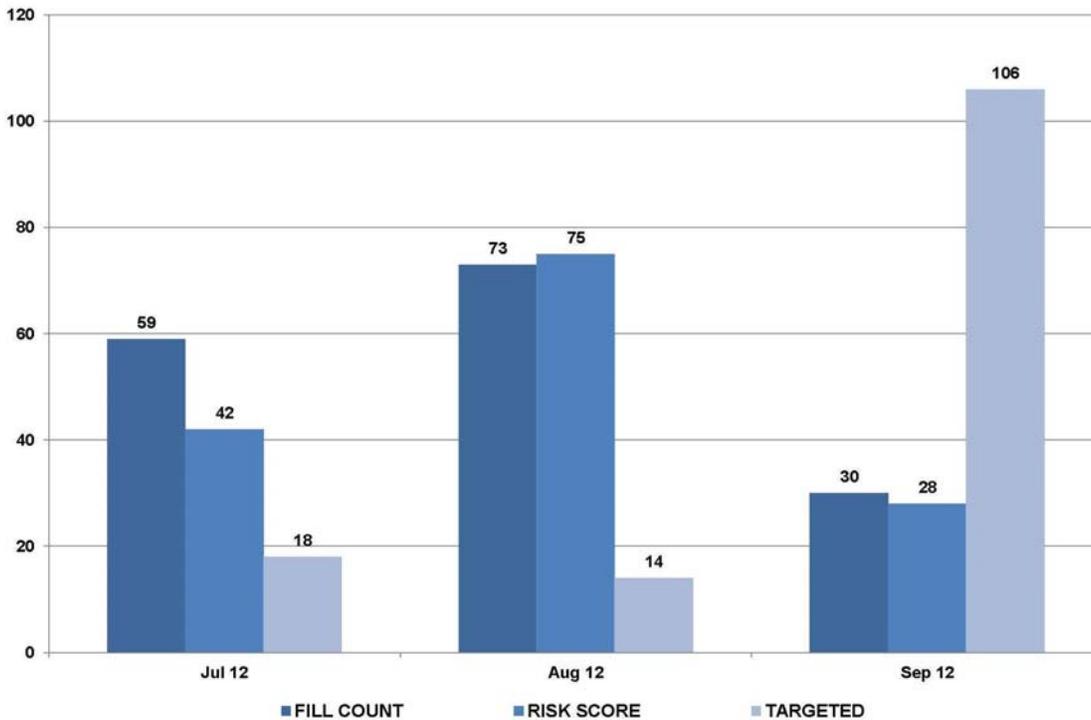


Figure 5S – Patients Reviewed by Selection Method between July 2012 and September 2012



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

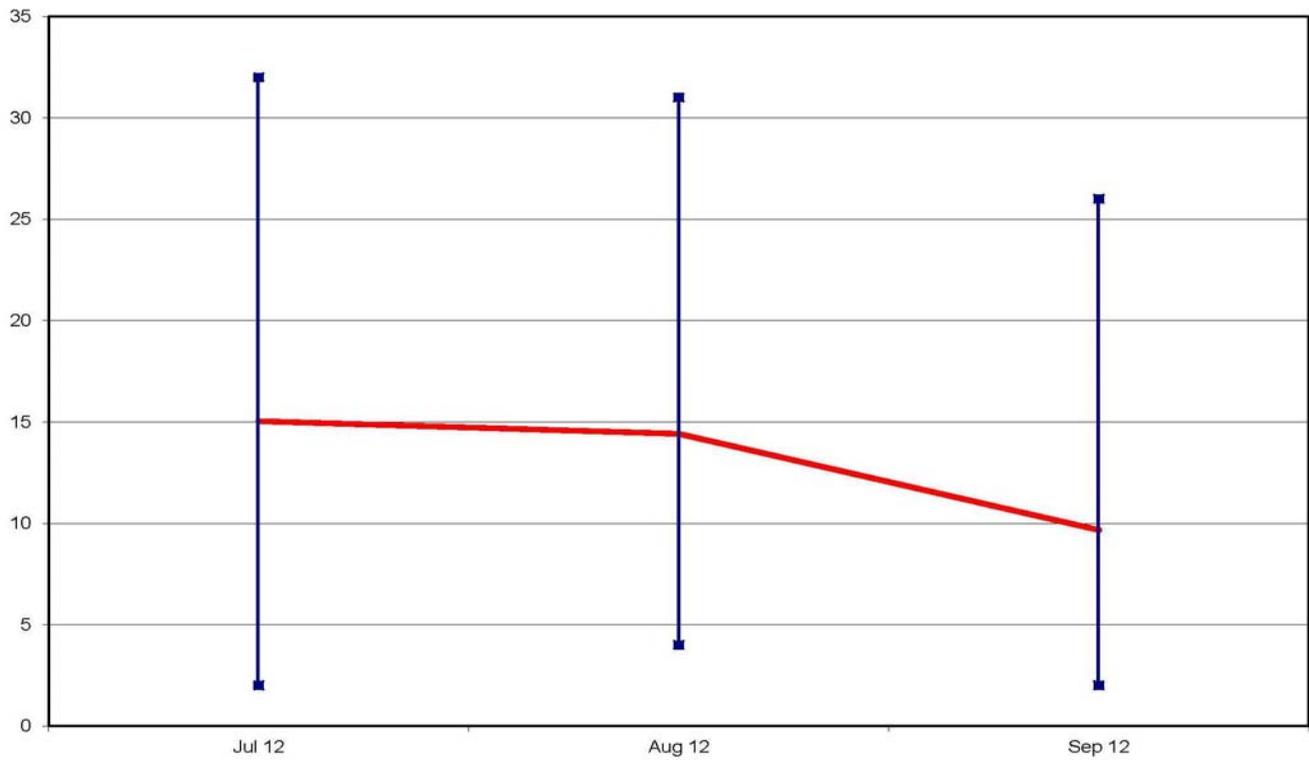
Reviewed ambulatory patients during the supplemental reporting period were predominantly females in their 40s who filled 10 to 15 prescriptions per month.

Table 6S – Cohort Demographics: All Reviewed Patients

MONTH	Female				Male			
	Percent	Mean Age	Mean Fill Count	Mean Cost Per Fill	Percent	Mean Age	Mean Fill Count	Mean Cost Per Fill
Jul 12	76	49.3	15.1	64.64	24	50.4	14.8	63.91
Aug 12	73	47.4	14.6	64.34	27	49.1	13.9	68.41
Sep 12	70	39.9	9.9	63.74	30	30.7	9.2	77.98
ALL	72	45.2	13.1	64.27	28	41.9	12.2	70.04

Figure 6S 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 15, while the maximum number of prescriptions for a reviewed patient exceeded 30.

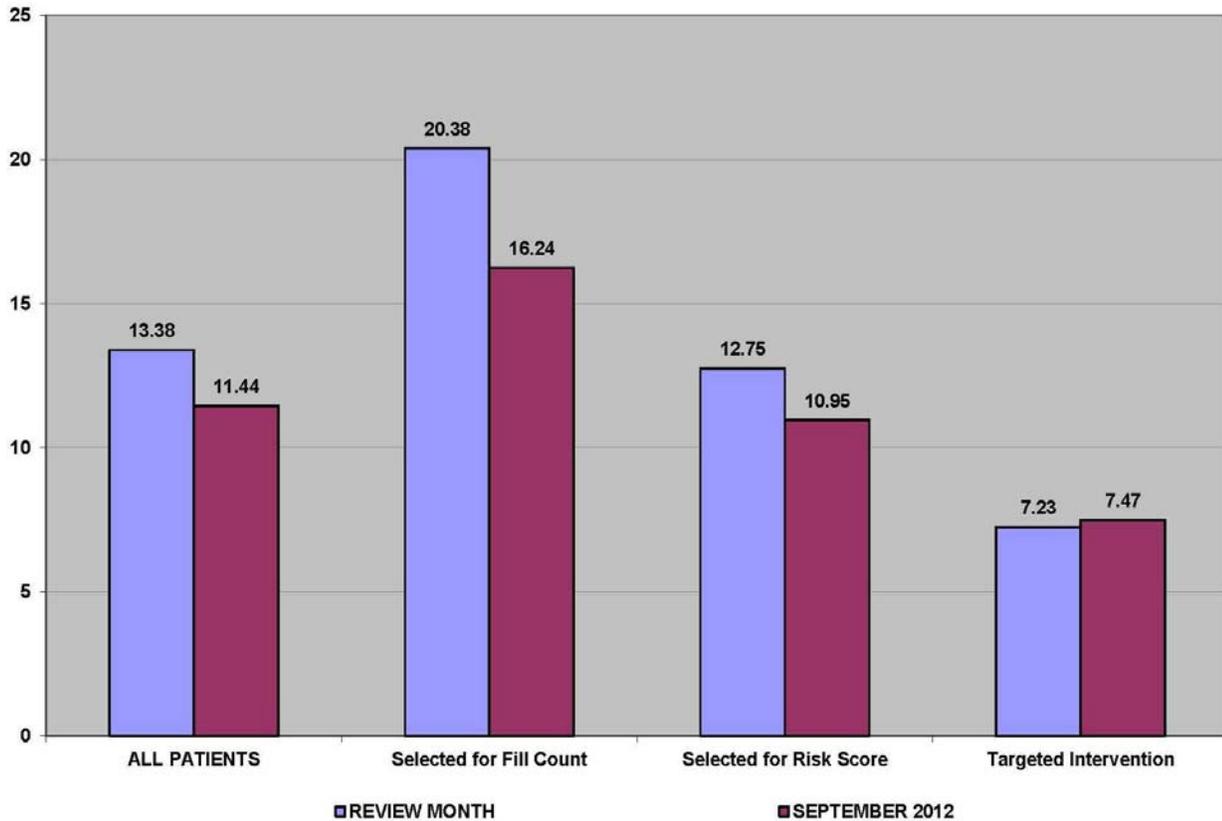
Figure 6S – Average, Minimum and Maximum Number of Prescriptions: All Reviewed Patients



PROGRAM EFFECTIVENESS: PRESCRIPTIONS

Figure 7S shows the average number of prescription fills per patient, by selection method, for all reviews done between July 2012 and September 2012, compared to the average number of prescriptions filled by the same patients at the end of the supplemental reporting period in September 2012.

Figure 7S – Average Fills by Selection Method: Month of Review Compared with September 2012



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

Figures 8S and 9S show the average number of prescriptions per reviewed patient for each month between July 2012 and September 2012, compared to the average number of prescriptions filled by the same patients at the end of the supplemental reporting period in September 2012.

Figure 8S – Average Fills during Review Month Compared with September 2012: All Reviewed Patients

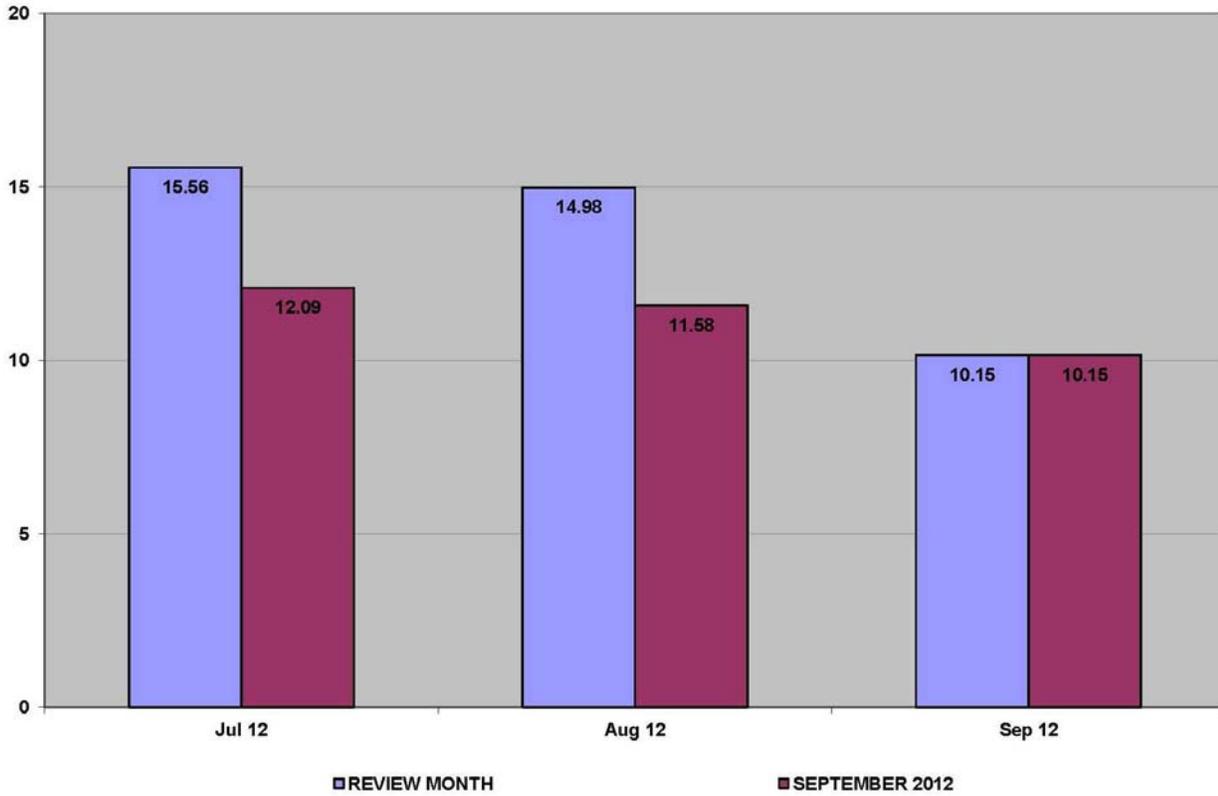
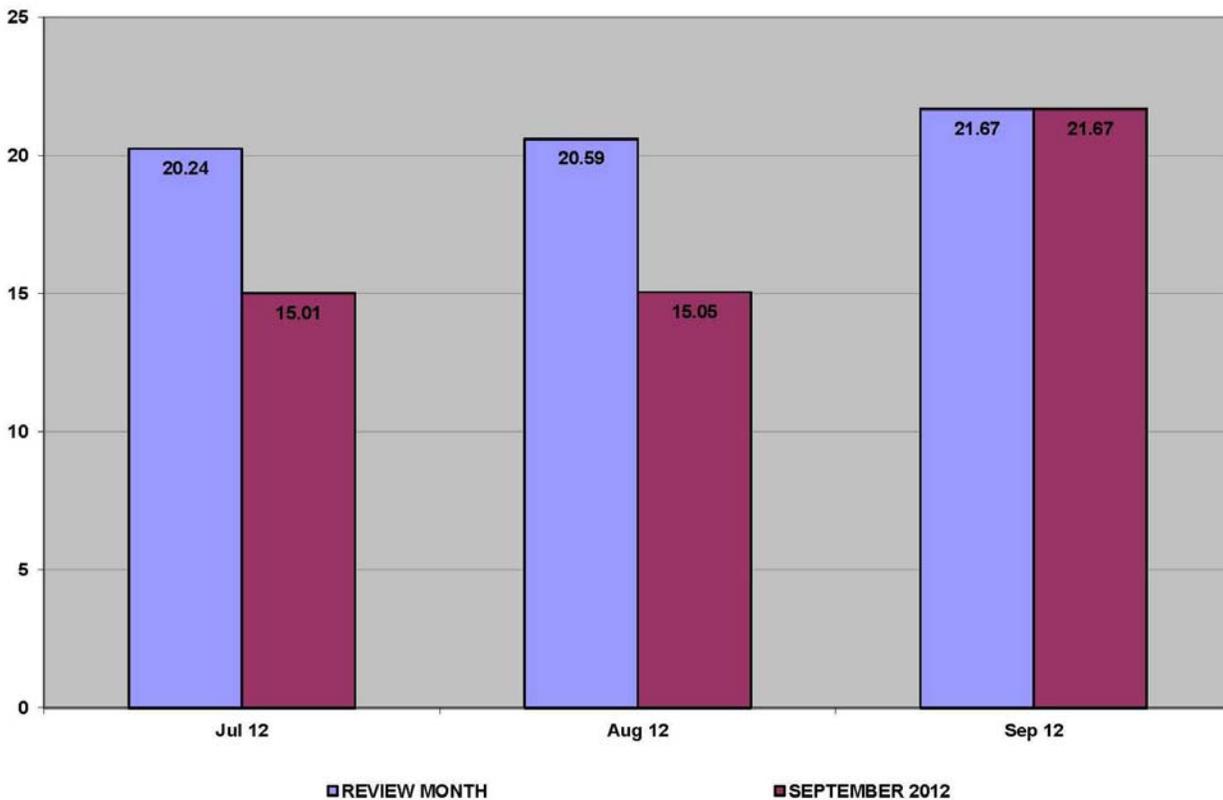


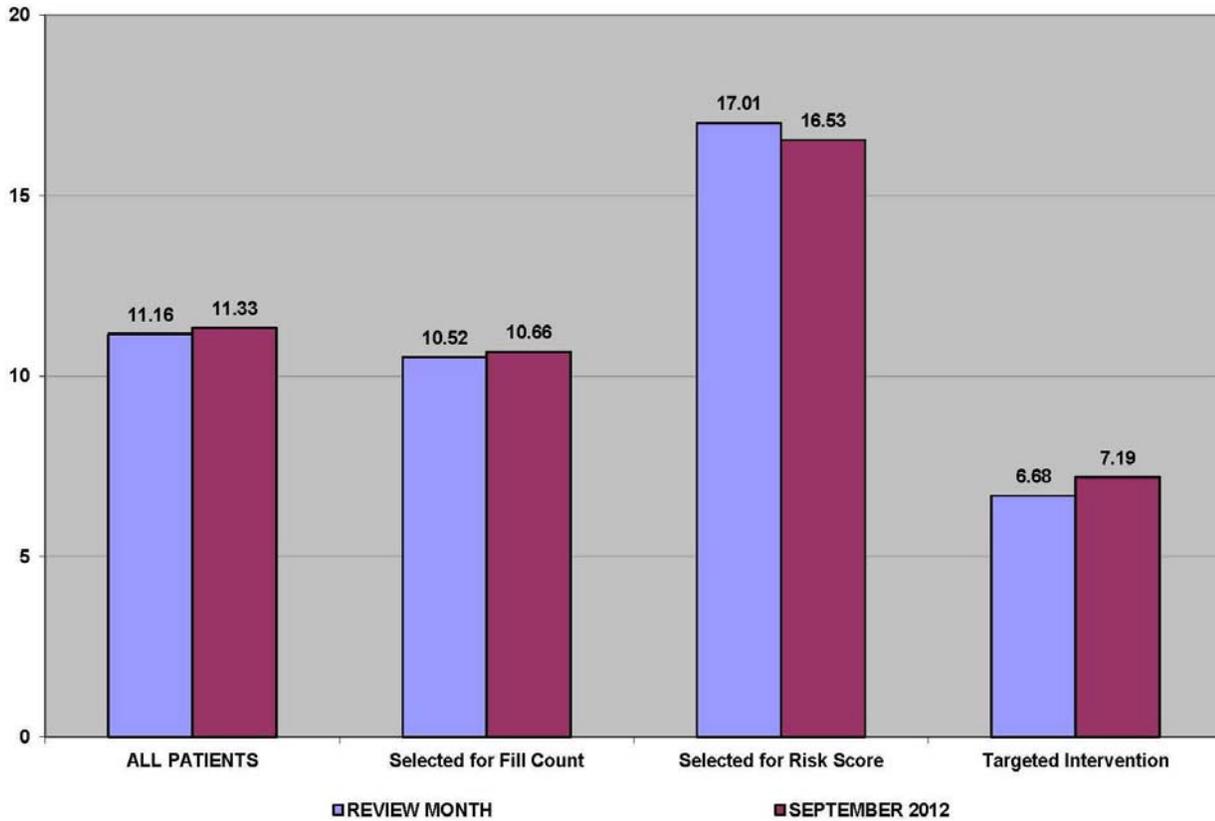
Figure 9S – Average Fills during Review Month Compared with September 2012: Patients Selected by Fill Count



PROGRAM EFFECTIVENESS: RISK

Figure 10S shows the average risk score per patient, by selection method, for all reviews done between July 2012 and September 2012, compared to the average risk score for the same patients at the end of the supplemental reporting period in September 2012.

Figure 10S – Average Risk Score by Selection Method: Month of Review Compared with September 2012



The only reduction in risk scores was seen in patients selected on the basis of risk score.

Figures 11S and 12S show the average risk score per reviewed patient for each month between July 2012 and September 2012, compared to the average risk score for the same patients at the end of the supplemental reporting period in September 2012.

Figure 11S – Average Risk Score during Review Month Compared with September 2012: All Reviewed Patients

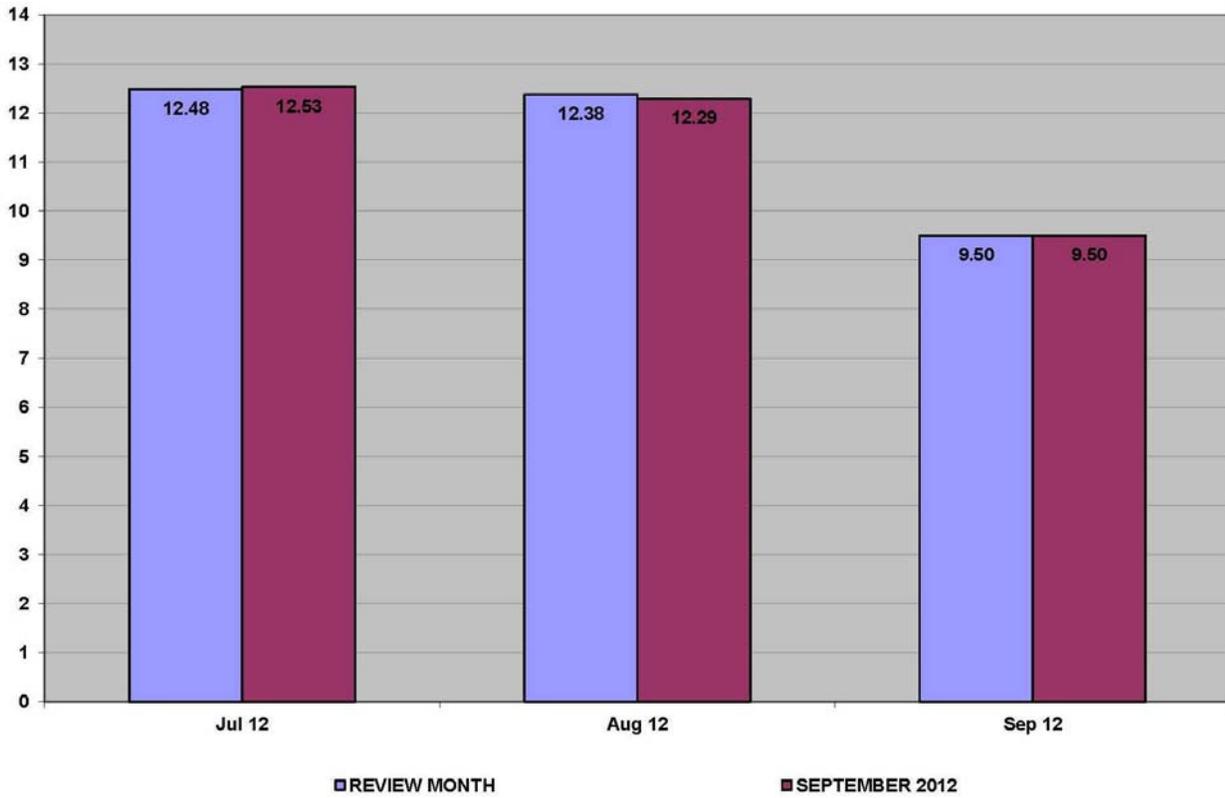
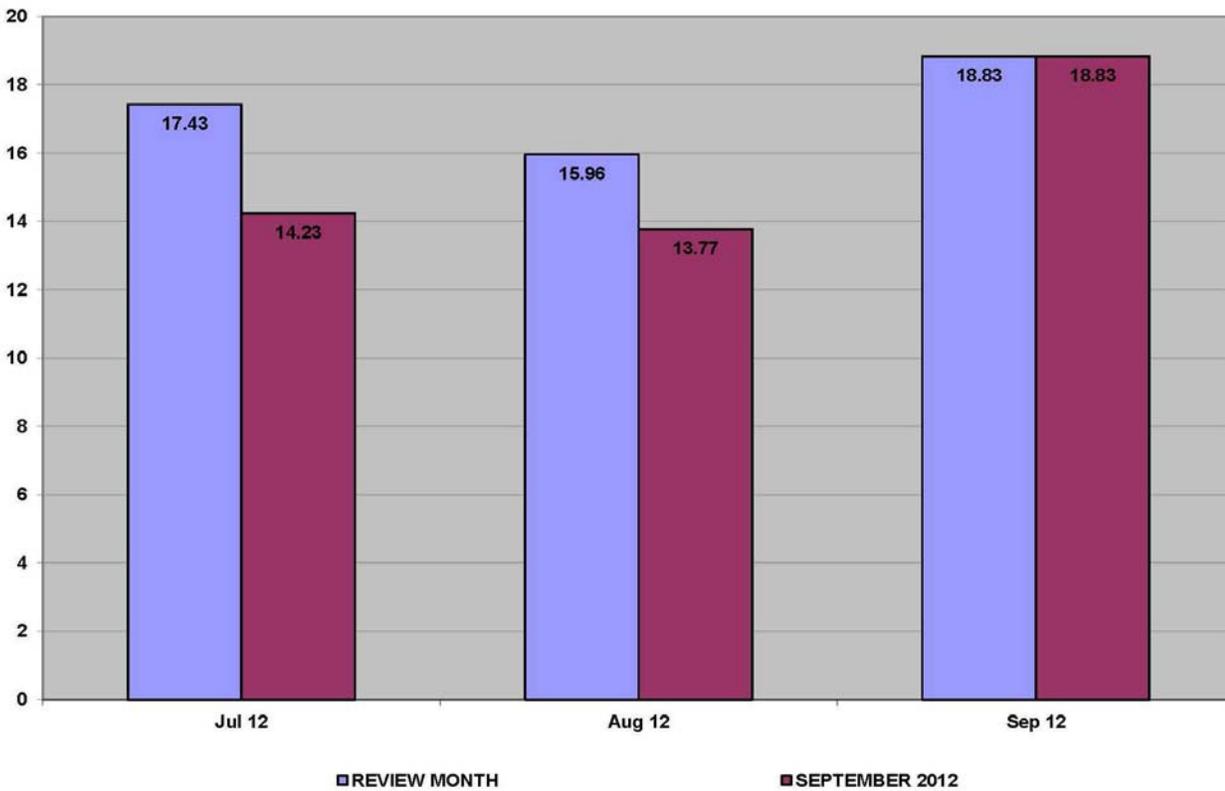


Figure 12S – Average Risk Score during Review Month Compared with September 2012: Patients Selected by Risk Score



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 both the supplemental and current 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 supplemental and current reporting period and accessed their drug benefit at least one time during each of the months during this 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 2012 and September 2012, total drug cost during the review month was used as the baseline amount for comparison. These baseline amounts were compared with the drug costs for each subsequent month up until September 2013. For example, costs in August 2012 were compared with costs during every month between September 2012 and September 2013 for those patients reviewed during August 2012. Additional cost savings for patients reviewed before August 2012 are not included, nor are additional savings that would be expected after September 2013 for patients included in this report.

Assuming total Medicaid drug costs remain constant after the month of review, drug costs for patients reviewed from July 2012 through September 2012 decreased by \$1,421,618.

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.

SEE APPENDIX A-S

APPENDIX A-S

COSTS FOR REVIEWED PATIENTS ELIGIBLE AND UTILIZING RX BENEFITS ENTIRE REPORTING PERIOD: Selected from Entire Medicaid Population

	Jul 12	Aug 12	Sep 12	Oct 12	Nov 12	Dec 12	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	TOTAL	PROJECTED	SAVINGS
Jul 12	111,727	106,581	82,460	92,024	83,743	85,465	87,014	79,180	84,425	76,233	85,525	70,629	70,338	72,061	68,264	1,255,669	1,675,905	420,236
Aug 12		146,642	112,961	109,997	115,876	99,796	97,241	99,088	94,736	98,025	95,876	91,571	86,218	76,672	72,828	1,397,528	2,052,988	655,460
Sep 12			113,600	106,982	98,987	100,679	89,097	69,265	78,973	99,007	83,632	69,243	74,366	71,517	75,527	1,130,873	1,476,794	345,922
																3,784,070	5,205,688	1,421,618

PATIENTS

96 121 127

*Total number from each monthly review cohort remaining eligible for AND utilizing prescription drug benefits during the entire 15 month reporting period.

AVERAGE PER PATIENT

	Jul 12	Aug 12	Sep 12	Oct 12	Nov 12	Dec 12	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	TOTAL	PROJECTED	SAVINGS
Jul 12	1,164	1,110	859	959	872	890	906	825	879	794	891	736	733	751	711	13,080	13,966	886
Aug 12		1,212	934	909	958	825	804	819	783	810	792	757	713	634	602	11,550	13,331	1,781
Sep 12			894	842	779	793	702	545	622	780	659	545	586	563	595	8,905	8,945	40