Drug Utilization Review (DUR)

Annual Report

Prepared by
Division of Medicaid and Health Financing

December 1, 2010

EXECUTIVE SUMMARY

The Utah Medicaid and Health Financing DUR Program Managers continue to deal with complex medical and drug issues. There have been multiple challenges this past year. The initiative to implement a preferred drug list began shortly after passage of the legislation in the 2007 session, and actual implementation began October 1, 2008. A requirement, passed in the 2009 legislative session, for Prior Authorization (PA) for non-preferred drugs was implemented on May 18, 2009. Fiscal Year 2010 (FY10) was the fourth complete year of the Medicare Part D program operation of prescription benefits to the dual eligible population. This has had an impact on all aspects of the program. 326,535 eligible clients were enrolled in the program. This figure includes approximately 23,850 dual eligible clients, and represents a total increase of 28,163 from FY09. There were approximately 302,685 non-dual eligible clients enrolled in the program.

Total paid drug claims increased $13.5 million to $154,845,911[1]. The State Phased Down Contributions (aka "Clawback") totaled $16,522,847 bringing total program expense to $171,368,758. The average cost of a prescription decreased by 0.4 percent to $63.55. The average price of a brand name drug rose 8.9 percent to $196.99. The average generic drug cost increased 4.7 percent to $24.16. The total prescription volume was 2,436,438 up from 2,213,975 the previous year. All drug products do not fall within brand or generic categories. Some drugs are considered branded generics and some brands are multi-source drugs.

Mental health drugs account for $60.2 million, or 38.9 percent of all drug expenditures. The atypical antipsychotics, the number one drug class ranked by cost, accounted for $30.7 million, or 19.9 percent of drug expenditures. Antidepressant medications account for another $8.9 million, and the anticonvulsant medications, with continued increase in mental health uses, totaled an additional $11.6 million.

Efforts to control spending are aggressively being pursued. The contract with the University of Utah College of Pharmacy's Drug Regimen Review Center (DRRC) has achieved at least $1.3 million in savings for FY10. These savings were gained simply by assisting physicians to reduce the number of prescriptions that could cause potential adverse drug reactions, and to eliminate unnecessary and/or duplicate prescriptions. The DRRC currently reviews 150 cases per month.

The DUR Board continues to be instrumental in improving both quality of care and access to medications. The DUR Board has also been instrumental in improving healthcare outcomes and is directly responsible for influencing savings through various measures that make

[1] All data presented at DUR Board meetings and in this report are referenced to gross paid claims from the data-warehouse. Final year-end dollar and unit amounts may be different due to ledger adjustments.

better use of available resources. During the 2010 General Session of the Utah Legislature, Utah Code 26-18-105 was amended. This change allowed the DUR Board to consider drug therapy costs in determining clinical utilization criteria.

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I. INTRODUCTION

The Utah Department of Health, Division of Medicaid and Health Financing's Drug Program continues to show upward trends in both cost and utilization, even while the impact of the Medicare Modernization Act has lowered expenditures. Effective January 1, 2006, Medicare clients eligible for both the Medicare and the Medicaid programs (so-called Dual Eligible or DE clients), obtain their medications through the Medicare Part-D program. As a result, FY10 is the fourth complete year without DE expenditures. Consequently due to Part-D, all aggregate totals have decreased, yet the Federal Government still requires the State to pay a portion of the costs associated with the DE clients that now receive drug benefits through the new Part-D Medicare Drug Plan. This portion has come to be known as the "Clawback."

Total drug spending totaled $154,845,911 for State Fiscal Year 2010 (FY10). "Clawback" payments for FY10 totaled $16,522,547 bringing total expenditures to $171,368,758. The total number of eligible clients increased from 298,372 to 326,535, a 9.4 percent increase. The Utah economy during FY09 and FY10 may be responsible for some of the increase in the Medicaid population. In both of these years more new members entered the program due to decreased employment opportunities. Since the number of DE clients has remained about the same, the increase is mostly attributable to the non-dual population. The number of recipients receiving prescriptions increased from 187,156 to 207,948, an 11 percent increase. In spite of the increase, spending declined from $754.88 per recipient per year (PRPY) to $744.64, a decrease of $10.24 (1.4 percent). Even with the PRPY decrease, total expenditures continue to rise for the provision of prescription drugs due to increasing numbers of individuals enrolling in Medicaid.

Medicaid paid for 2,436,438 prescriptions up from 2,213,975 in FY09, a 10 percent increase. The average cost per prescription decreased $0.26, a decrease of 0.4 percent. This decrease in per prescription cost did not out-weigh the increase in number of clients and number of total prescriptions paid. This caused an increase in FY10 expenditures of $13.5 million dollars.

The average price of a generic drug prescription increased 4.7 percent to $24.16. Average brand name prescription prices rose 8.9 percent to $196.99. The Pharmacy Practice Act mandates the use of generics in the Medicaid drug program. Overall, the number of generic prescriptions increased by 14.9 percent and each one percent shift in generic usage equates to approximately 2.5 million in savings.

II. RETURN ON INVESTMENT

Drug Rebates

Primary Rebate

Drug rebates from the manufacturers continue to be the most significant savings to the drug program. All rebates go back into the State general fund and are shared with the Federal Government. The total primary rebate collected from 1994 through 2010 Calendar Year to Date (CYTD) approaches $468 million[2]. Including the recent billings for the second quarter of calendar year 2010 (CY10), there are approximately $1.6 million in outstanding rebates[3].

J-Code Rebates

In 2005, the Division retroactively billed manufacturers back to 1997 for J-code rebates to comply with CMS directives. J-codes are Healthcare Common Procedure Coding System (HCPCS) codes used by providers in the office setting to bill for drugs administered in the physician's office. J-code rebate billings have continued forward since 2005. The total J-code rebates collected for years 1997 through CYTD10 exceed $ 9.3 million[1]. There are $425,000 in outstanding J-code rebates through the second quarter of CY10.

340B Rebates

The Division has had an arrangement with the 340B covered entities under the University of Utah Hospital System, whereby the covered pharmacies remit back to the State a rebate equivalent to the primary rebate. Since the state is not allowed to collect a rebate from drug manufacturers on drugs reimbursed at 340B prices, this system was set up to take advantage of 340B pricing and avoids duplicate savings. Primary rebates are not invoiced to the manufacturers for drugs reimbursed under this system. The total 340B rebate collected from 2005 through CYTD10 is $8.8 million[1]. There remains $758,000 in outstanding 340B rebates through the second quarter of CY10.

Supplemental rebates

The 2007 Utah legislature authorized the Division to begin using a Preferred Drug List tool in its program. Utah joined the Sovereign States Drug Consortium (SSDC) in order

[2] All dollar amounts shown include both state and federal dollars unless otherwise noted.
[3] Health Care Reform legislation created new minimums for primary rebates which affect the way rebates are shared with the Federal Government. While CMS guidance is not yet complete, the overall impact of these changes is estimated to increase Utah's sharing of rebate amounts with the federal government in excess of $6 million per year.

to negotiate with drug manufactures for Supplemental Rebates. These rebates are in addition to the primary rebate that drug manufacturers offer. After safety and efficacy are established through a Pharmacy and Therapeutics (P&T) Committee, equally safe and effective drugs in a drug class are categorized as "preferred" or "non-preferred". Manufacturers offer a supplemental rebate to leverage a favorable position in the "preferred" class in exchange for increased market share potential. The total supplemental rebate collected since implementation of the PDL in October, 2007 is $5.9 million[4]. There are $17,000 in outstanding uncollected supplemental rebates through the second quarter of CY10. Table 1 presents rebates collected from 1994 through 2010.

Table 1: Drug Rebate by Calendar Year[2,5]

Calendar Year	Primary Adjusted	J-code Adjusted	340B Rebates Adjusted	Supplemental Adjusted
1994 – 1997	$38,212,093	$121	—	—
1998	$14,406,738	$2,404	—	—
1999	$18,008,705	$5,399	—	—
2000	$21,004,520	$15,589	—	—
2001	$24,869,395	$13,775	—	—
2002	$29,236,933	$54,645	—	—
2003	$35,077,187	$127,062	—	—
2004	$44,654,500	$178,177	—	—
2005	$52,713,234	$515,412	$1,348,350	—
2006	$32,564,708	$696,112	$1,547,501	—
2007	$37,976,992	$810,416	$1,444,743	$139,753
2008	$42,415,265	$1,198,717	$1,621,478	$1,982,326
2009	$48,806,409	$3,296,357	$2,189,402	$2,536,773
2010	$29,362,276*	$2,418,358*	$1,365,000*	$1,269,613*
Totals	**$469,310,954***	**$9,332,543***	**$9,156,475***	**$5,928,465***

Prior Approval

The legislative mandate for the use of generics versus brand name drugs has been cost effective. Brand name drugs for which a generic is available require a prior approval (PA). As

[4] All dollar amounts shown include both state and federal dollars unless otherwise noted.
[5] Figures since Fiscal Year 2006 are lower due to the exodus of dual eligible clients from the program. Figures will differ from previous year due to manufacturer adjustments.

mentioned previously each additional one percent in increased generic usage means approximately $2.5 million in savings.

Prior authorizations are also used to control duplicate therapies, and inappropriate or excessive use of medications. The Omnibus Budget Reconciliation Act (OBRA) laws give states the authority to use a prior authorization with any covered medication. Often these medications are very expensive. By legislative statute and mandate, Utah limits non-generic/brand prior authorizations to clinical applications, and excludes regulating mental health drugs via PA. In FY10, there were approximately 38,700 prior authorizations issued.

An example of the effect that prior approvals can have on the drug program is exemplified by the medication Invega, a drug that treats a condition for which lower cost, safe, and effective duplicate therapies exist. Prior to the legislative mandate excluding antipsychotic medications from PA regulation, a prior approval was in place for Invega. After the prior authorization requirement was removed, monthly expenditures for Invega quickly rose from an average of $3,600 per month to over $24,000 per month. For the fourteen months the prior was in place, $285,600 was saved for this single drug.

Drug Regimen Review Center

The University Of Utah College of Pharmacy's Drug Regimen Review Center (DRRC) began reviewing high utilization of the Medicaid drug program in 2002. Based on paid drug claim history, the DRRC contacts physicians for identified Medicaid clients and performs educational "peer reviews" of these targeted clients. The goal is to reduce waste, duplication, and unnecessary or inappropriate prescription use. The program has been well received by providers and clients. As of June 30, 2010 there have been 46,251 letters sent to 12,570 prescribers with recommendations concerning 15,201 Medicaid clients. For FY10, it appears that the DRRC program achieved at least $1.4 million savings (assuming no baseline increase in drug costs) by assisting physicians to be able to reduce the number of prescriptions that could cause potential adverse drug reactions or elimination of unnecessary or duplicate prescriptions. The DRRC is contracted with the Department for $468,000 per year. Attachment 1 presents the FY10 report from the DRRC.

Co-Pay

Co-pays returned $4.4 million for FY10. Co-pays are collected on prescriptions for recipients in the Primary Care Network program and the Non-traditional Medicaid Program. No co-pays are collected in the traditional program for certain exempt categories of recipients (e.g., children under age 18, pregnant women, some nursing home residents, and family planning prescriptions). Table 2 presents total co-payments collected to date. Note that figures since FY06 are lower due to the exodus of dual eligible clients from the program.

Table 2: Co-Payments Collected

Fiscal year	Amount Returned
1998	$411,472
1999	$833,201
2000	$894,260
2001	$992,320
2002	$1,072,334
2003	$3,286,039
2004	$5,582,844
2005	$5,862,754
2006	$5,000,728
2007	$4,185,931
2008	$4,605,609
2009	$4,530,639
2010	$4,431,349
Total	**$45,689,480**

Preferred Drug List

The 2007 Legislature passed a directive authorizing the Division to implement a preferred drug list (PDL) in the Medicaid program. In order to operate a credible, responsible program, the Division created the Pharmacy and Therapeutics (P&T) Committee. The Committee consists of pharmacists and physicians familiar with issues surrounding the use of a PDL. This professional panel of experts was seated and began operation in August 2007. Implementation began with two classes of drugs – those that reduce stomach acid (the Proton Pump Inhibitors), and those that lower cholesterol (the Statins). Additional classes are added as the P&T committee deliberates classes that favor use in a PDL setting. The committee utilizes the University of Utah, College of Pharmacy to screen and summarize data for use in its monthly meeting, and draws heavily upon the work of the Oregon Health & Sciences University evidence-based medicine center for concurrent conclusions.

The charge of the P&T Committee is to evaluate the members of a drug class for equivalency in efficacy and safety. Cost is not part of their evaluation. The Committee determines whether or not the various drugs in a class are equally safe and effective, then recommends to the Division which drugs should be preferred or non-preferred based on that determination. Not all drug classes are candidates for a PDL.

The option to administer the PDL with a prior authorization tool was prohibited until May 18, 2009. Table 3 shows the combined savings results of the 12 months the PDL was growing in FY10. These figures represent a full year for 22 drug classes, and represent partial year figures for 11 additional classes.

Table 3: Preferred Drug List Savings

Description	Total Funds
Market Shift Savings	$13,72,731
Secondary Rebates	$ 3,137,863
Administrative Expenses	($193,021)
PDL Savings	**$16,647,572**

III. FINANCIAL DATA FOR DRUG PROGRAM

All data presented at DUR Board meetings and in this report are referenced to gross paid claims from the data-warehouse. Final year-end dollar and unit amounts may be different due to ledger adjustments made by the Division.

Spending per Medicaid recipient per year decreased in FY10 by $10.24, a 1.4 percent decrease. Even with a decrease in the amount spent per recipient, the increase in the number of recipients and in the cost of brand name medications still resulted in an overall increase in program costs of $13,564,879 for FY10 program expenditures. Table 4 presents a summary of the drug program.

Table 4: Drug Program Summary

	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Total Eligibles	249,745	276,813	286,983	287,559	274,710	267,378	298,372	326,535
Total Rx Recipients	174,952	194,067	200,505	196,499	175,861	169,697	177,030	207,948
Total Rx Claims	2,905,334	3,288,347	3,474,297	2,983,871	2,160,456	2,098,892	2,213,975	2,436,438
Cost (Allowed Charge, (in '000s)	$159,547	$183,306	$207,580	$183,029	$136,419	$139,884	$141,281	$155,143
Percent yearly expense increase	18.60%	14.90%	13.20%	-11.80%	-25.50%	2.54%	1.00%	9.6%
Average Cost per Rx	$54.92	$55.74	$59.75	$61.34	$63.15	$66.65	$63.81	$63.55
Percent increase in cost per Rx	8.20%	1.50%	7.20%	2.70%	3.00%	5.54%	-4.25%	-0.4%
Average Rx per month per eligible	0.97	0.99	1.00	0.86	0.65	0.65	0.62	0.62
Average Rx per month per recipient	1.38	1.41	1.44	1.26	1.02	1.03	1.04	0.98
Percent change in Rx per month per recipient	-7.70%	2.00%	2.29%	-12.36%	-19.00%	1.00%	1.00%	-5.7%

Top Twelve Therapeutic Classes

Table 5 shows the top twelve therapeutic classes ranked by cost for FY09 and FY10. Therapeutic classes divide drug agents into groups that reflect their physiologic action. The newest mental health classification, atypical antipsychotics, comprised of two subgroups – H7T and H7X – remains the number one drug expenditure. The subgroup H7X consists of only one drug and accounts for $9 million in expenditures. Anticonvulsants are used extensively in the treatment of mental health disorders (e.g., bi-polar, mood, and other disorders), and in neuropathic pain treatment. They are ranked number two. Four of the top twelve drug classes are used to treat mental health disorders. Mental health drugs account for 38.9 percent of total Medicaid drug costs.

Table 5: Top 12 Therapeutic Classes by Cost and by Volume for FY10

Rank	Cost FY09	Cost FY10	% Change, FY09 to FY10	Drug Class	Rank by RX Volume FY10	Avg. Cost per Rx FY10
1	$27,018,525	$30,769,317	13.9%	Atypical Antipsychotics **H7T, H7X**	6	$359.00
2	$16,317,953	$11,590,664	–29.0	Anticonvulsants **H4B**	2	$73.08
3	$9,297,325	$9,975,826	7.3%	Narcotic Analgesics **H3A**	1	$45.78
4	$8,329,834	$6,984,168	–16.2%	Antidepressants **H2S, H7C, H7D**	3	$43.98
5	$5,548,286	$5,496,955	–0.9%	Proton Pump Inhibitors (anti-ulcer) **D4J, Z2D**	7	$63.02
6	$3,534,369	$4,109,577	16.3%	Hemophilia factor VIII **M0E**	243	$21,743.79
7	$3,446,377	$4,035,477	17.1%	Insulins **C4G**	22	$156.26
8	$2,968,006	$3,740,936	26.0%	Adrenergics (aromatic, non-catacholamine) **J5B**	47	$129.58
9	$2,752,099	$3,354,861	21.9%	Narcolepsy & ADHD **H2V**	29	$130.72
10	$1,989,175	$2,529,270	27.2%	Leukotriene receptor agonists **Z4B**	25	$115.90
11	$2,084,010	$2,490,541	19.5%	β-adrenergic & glucocorticoids **J5G**	9	$202.37
12	$2,410,539	$2,227,645	–7.6%	Lipotrophics **M4D, M4E, M4I, M4L, M4M**	12	$48.81

Brand Name vs. Generic

A generic drug is identical to a brand name drug when bio-equivalent in dosage form, safety, strength, route of administration, quality, performance, characteristics, and intended use. Although generic drugs are chemically identical to their branded counterparts, they are typically sold at discounts from the branded price. In FY10, the average cost difference between the name brand and generic prices was $172.82, an increase of $14.93 from FY09. The use of generic drugs continues to be Utah Medicaid's single most important cost saving measure.

Table 6 presents the breakout of dispensing source and also shows the brand name versus generic agent utilization for prescriptions for FY10. The use of generics increased 215,575, or 14.9 percent this year. All brand name drugs require a prior approval if there is a generic available. Brand name drugs account for 21.5 percent of claims while generics account for approximately 68.4 percent of all claims. Over-the-counter and select intravenous drugs make up the rest. Brand name drugs still account for 67 percent of total dollars spent. Savings generated from switching to generics is just over $37 million.

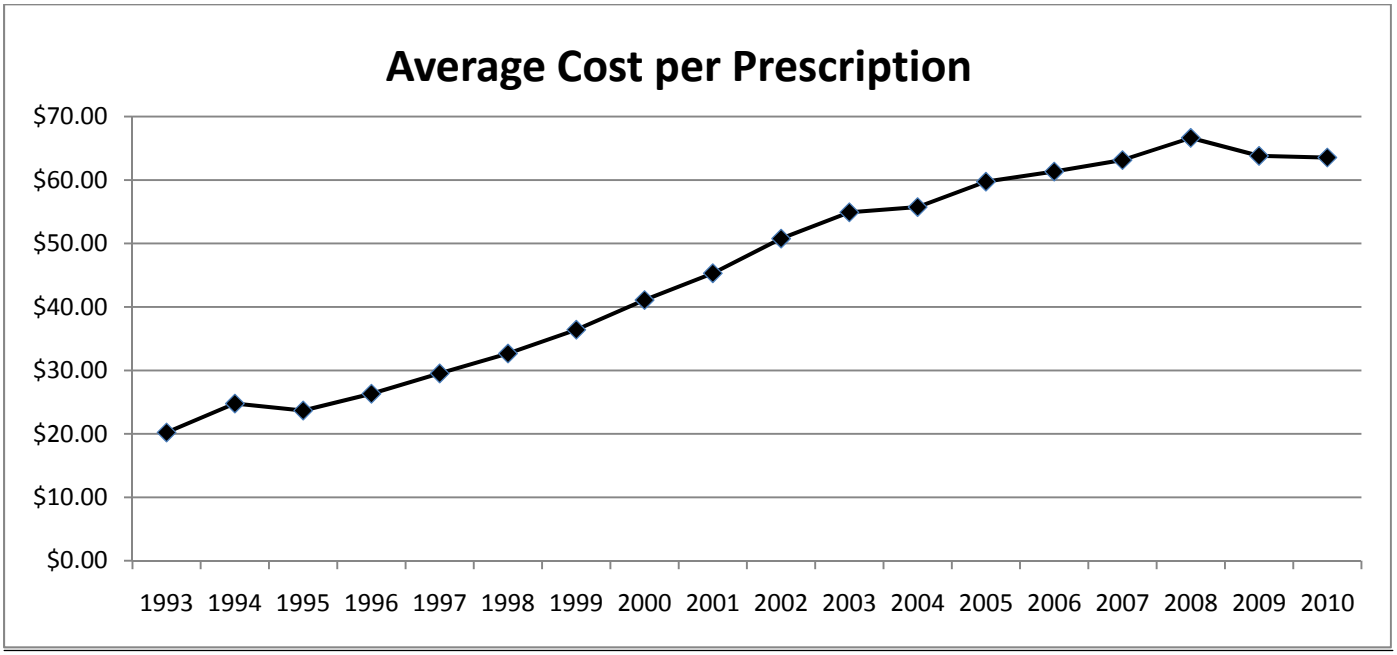
Dispensing fee indicators "F, J, K, L, M" are for select home intravenous infusion prescriptions. Dispensing fee indicator "C" is for over-the-counter products including insulin.

Table 6: Utilization by Dispensing Fee Indicator

Allowed Dispensing Source	Number of Rx (FY10)	Percent of Rx (FY10)	Total Cost (FY10)	Average Cost per Rx (FY10)	Average Cost per Rx (FY09)	Percent Change (FY10 vs. FY09)
Brand	524,711	21.54%	$103,361,903	$196.99	$180.97	8.85%
C	230,657	9.47%	$9,951,643	$43.14	$38.86	11.03%
D	9,208	0.38%	$806,959	$87.64	$59.45	47.41%
F	1,283	0.05%	$7,450	$5.81	$3.30	75.95%
Generic	1,666,711	68.41%	$40,274,784	$24.16	$23.08	4.70%
J	1,603	0.07%	$32,756	$20.43	$47.31	-56.81%
K	414	0.02%	$348,800	$842.51	$763.02	10.42%
L	1,608	0.07%	$60,595	$37.68	$28.47	32.36%
M	243	0.01%	$1,022	$4.21	$2.38	76.71%
Total	2,436,438	100.00%	$154,845,911	$63.55	$63.81	-0.40%

Figure 1 presents a graphic representation of the increase in prescription prices over the most recent 17 year period.

Figure 1: Average Cost per Prescription, 1993 through 2010



For FY10 the average price of a prescription decreased by $0.26, a 0.4 percent decrease. FY10 saw an increase in the number of eligible clients and an increased use of generic medications.

Clawback

With the Medicare Part-D prescription drug plan, the Federal government requires that the States continue to pay a portion of the costs associated with the prescriptions that are now provided through Medicare Part-D. This portion, called the "State Phased Down Contribution," is remitted on a monthly basis to the Federal Government by what has come to be known as the "Clawback" payment. This payment is calculated monthly based on FY03 eligibility data, and factored per DE clients. Table 7 presents Calendar Year totals for each month's remittance for the fiscal year. When FY10 Clawback amounts are added to FY10 Medicaid expenditures the total program costs are $175 million. Note that the "Clawback" amounts due for March, May, and June 2010 are zero. December 2009's "Clawback" is also significantly lower than the other months. This is due to the American Recovery and Reinvestment Act, which allows accumulation of credits for prior payments.

Table 7: State Phased Down Contribution - "Clawback"

Period	"Clawback" Amount
Jul-09	$2,130,548
Aug-09	$2,133,137
Sep-09	$2,365,358
Oct-09	$2,152,812
Nov-09	$1,999,802
Dec-09	$1,695
Jan-10	$2,104,623
Feb-10	$2,157,877
Mar-10	$0
Apr-10	$1,476,996
May-10	$0
Jun-10	$0
Total FY 2010	**$16,522,847**

IV. PATIENT COUNSELING

The State Board of Pharmacy, under the direction of the Division of Occupational and Professional Licensing is responsible for identifying pharmacists who do not counsel. Last year, no pharmacists were cited for failure to counsel Medicaid Clients.

V. DRUG UTILIZATION REVIEW

PRODUR

For FY10, the Prospective Drug Utilization Review (PRODUR) program returned approximately $1.4 million from reversed claims. It should be recognized that the actual dollar amount may be smaller because physicians may substitute different prescription drugs. The PRODUR Program examined 4,677,524 claims. Of that total there were 350,107 claims reversed and 138,361 adverse drug warnings posted to the pharmacy for 3 percent of submitted claims. Of those claims with warnings, 10.6 percent were reversed. There continues to be a gradual increase in warnings posted. Table 8 shows the trend in number of occurrences in the State's PRODUR over a ten-year period.

Table 8: PRODUR

Year	Total Warnings
1999	121,584
2000	134,596
2001	149,294
2002	154,441
2003	162,135
2004	196,356
2005	198,939
2006	154,636
2007	117,941
2008	127,738
2009	134,826
2010	138,361

There was a 2.6 percent increase in the number of warnings in FY10. As more complex new drugs come to market and more prescriptions are used per recipient per year, the chances for serious adverse drug events continue to increase. Therapeutic duplication continues to be a major concern. It is to the credit of both physicians' and pharmacists' responses to PRODUR that many probable adverse drug events are avoided.

In the last four years of the Medicaid prescription drug program, PRODUR and RETRODUR focused on over-utilization of mental health drugs that are often therapeutic duplications. Too frequently, two or more atypical antipsychotics are being prescribed concomitantly with other centrally acting drugs. In addition, the DRRC has focused much of its work on therapeutic duplications.

RETRODUR

As discussed previously, the Drug Regimen Review Center is a retrospective drug utilization review (RETRODUR) based program.

The DUR Board is a group of volunteers, nominated by their respective professional organizations, whose charge it is to monitor the Medicaid Drug Program and look for opportunities to eliminate waste, adverse drug reactions, drug over-utilization, and fraud. The Board consists of physicians, pharmacists, a dentist, a community advocate, and a representative from the Pharmaceutical Research and Manufacturers Association (PhRMA). The DUR Board is

mandated by both state and federal law. The Board meets monthly and meetings are open to the public. Each month the DUR Board reviews several petitions from physicians seeking drug coverage outside policy and/or criteria guidelines. This past year the DUR Board approved 21 of 28, or 75 percent of these petitions, and denied or suspended 7. Frequently the Board requests additional information from the petitioner. When evaluating petitions, board members review the client's drug utilization history for twelve months. Clients are not identified by name, ID number, or any other information, so confidentiality is maintained. All petitions that are rejected are provided with the option to appeal by requesting a formal hearing. To date, only one DUR Board decision has been overturned by a hearing.

During FY10, the DUR Board considered prior authorization (PA) recommendations for 15 drugs, and placed a PA on 9 of those drugs. All of these restrictions were placed in order to assure more appropriate utilization of the medications involved.

The DUR Board spent significant time reviewing PA criteria and other limits from previous Board actions. Twenty-three categories were reviewed. Modifications were made to the PA criteria of 11 of those categories. Criteria changes included expanding or restricting coverage, imposing maximum daily doses or quantity limits, consideration of new FDA-approved indications, and requirement of ongoing patient monitoring (e.g., lab values). Savings from DUR actions continue to be significant.

VI. DRUG UTILIZATION PROGRAM REPORTING MODIFICATIONS

New practices will be implemented in order to make better use of the Division's limited resources. The State DUR Report will be re-formatted over the next year to match the Federal DUR Report. As part of this re-formatting, the reporting period will change from July 1st through June 30th, to October 1st through September 30th. The State DUR report released in the summer of 2011 will include data covering federal fiscal year 2010 which covers October 2009 through September 2010. Because of the change, the FY11 report will include 9 months of data already presented in this report. Each year's report will be submitted soon after submission of the Federal report (i.e., late summer).

VII. CONCLUSION

The Medicaid Drug program avoided or returned more than $61 million to the Department when drug rebates, co-pays, preferred drug list, generic substitution, PRODUR reversals, and the College of Pharmacy's DRRC activities are taken into account. In spite of this, increases in prescriptions per recipient and rising drug costs continue to offset overall savings. The brand-name prior approval initiative maintains the largest lowering effect on

expenditures. Various tools are used to affect savings to the Medicaid Drug Program, while at the same time providing one of the most robust and generous drug benefits in the nation.

A preferred drug list was implemented in FY08. Other initiatives that are not part of Drug Utilization Review such as the Hemophilia program and 340B pricing are not reported here. Both programs currently operate within the Medicaid program and are growing.

The DUR Board continues to play an active role in the Medicaid Drug Program, and the Division is fortunate to have DUR Board members with high community standing and acknowledged expertise in their fields. The Division also benefits from in-house control of the entire drug program.

Attachment 1 – Drug Regimen Review Center Annual Report

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

UTAH MEDICAID DRUG REGIMEN REVIEW CENTER

ANNUAL REPORT:

JULY 2009 - JUNE 2010

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

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INTRODUCTION

The University of Utah College of Pharmacy began operating its Drug Regimen Review Center (DRRC) in May 2002 to fulfill the terms of a contract with the Utah 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 prescribers for 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
Benjamin Campbell, Pharm.D.
Karen Gunning, Pharm.D.
Joanne LaFleur, Pharm.D., MSPH
Bryan Larson, Pharm.D., BCPS
CarrieAnn Madden, Pharm.D., BCPS
Janet Norman, R.Ph.
Gary M. Oderda, Pharm.D., MPH
Lynda Oderda, Pharm.D.
Marianne Paul, Pharm.D., BCPS
Carin Steinvoort, Pharm.D.

Data Management
Lisa Angelos
Kami Doolittle
Yvonne Nkwen-Tamo
Brian Oberg, MBA
David Servatius

MISSION

The mission of the DRRC is to review the drug therapy of Medicaid patients who are high utilizers of the Medicaid 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.

METHODOLOGY

From the program's inception in 2002 through October 2008, the mechanism for patient selection 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 mechanism for patient selection was modified. Since that time, three different mechanisms of selection have been used:

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 Disease Counts

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 are selected.

To date, using both methods of patient selection, the Drug Regimen Review Center has mailed or faxed 46,251 reports to 12,570 different prescribers, with recommendations concerning 15,201 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.

Recently, the total number of claims increased from 191,923 to 199,777 per month (4.09%) during the period from July 2009 to June 2010. Drug costs also increased from $13,174,049 to $13,527,750 per month (2.68%) 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 2009 to June 2010, and Figure 3 shows the trend in total drug claim costs during the entire project period from January 2002 to June 2010.

Figure 1 – Total Medicaid Drug Claims by Month from July 2009 to June 2010

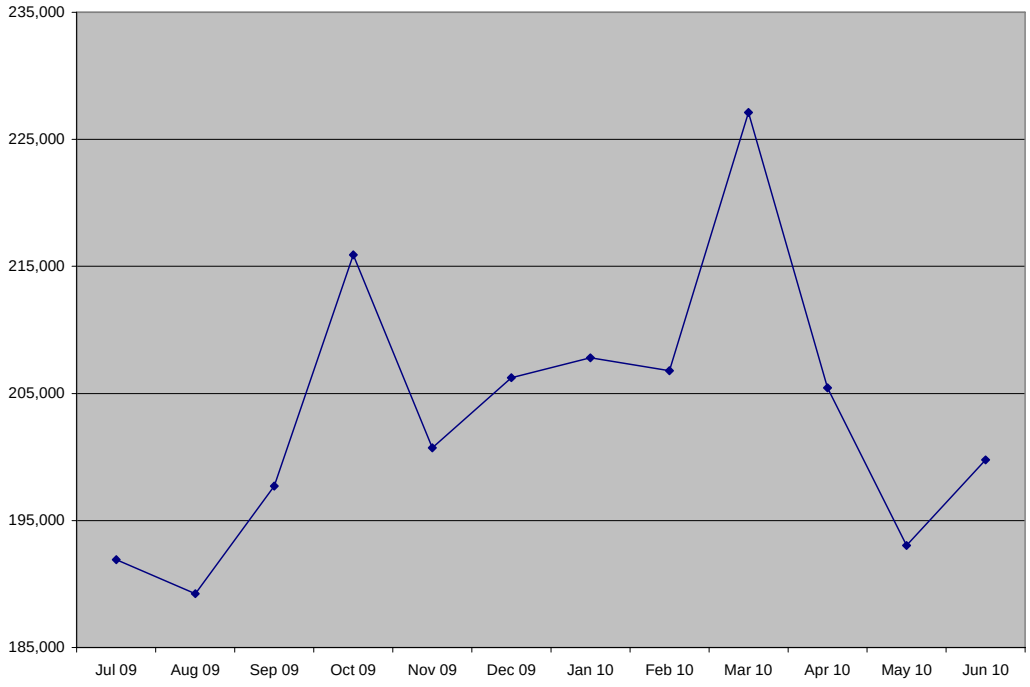


Figure 2 – Total Medicaid Drug Claim Costs by Month from July 2009 to June 2010

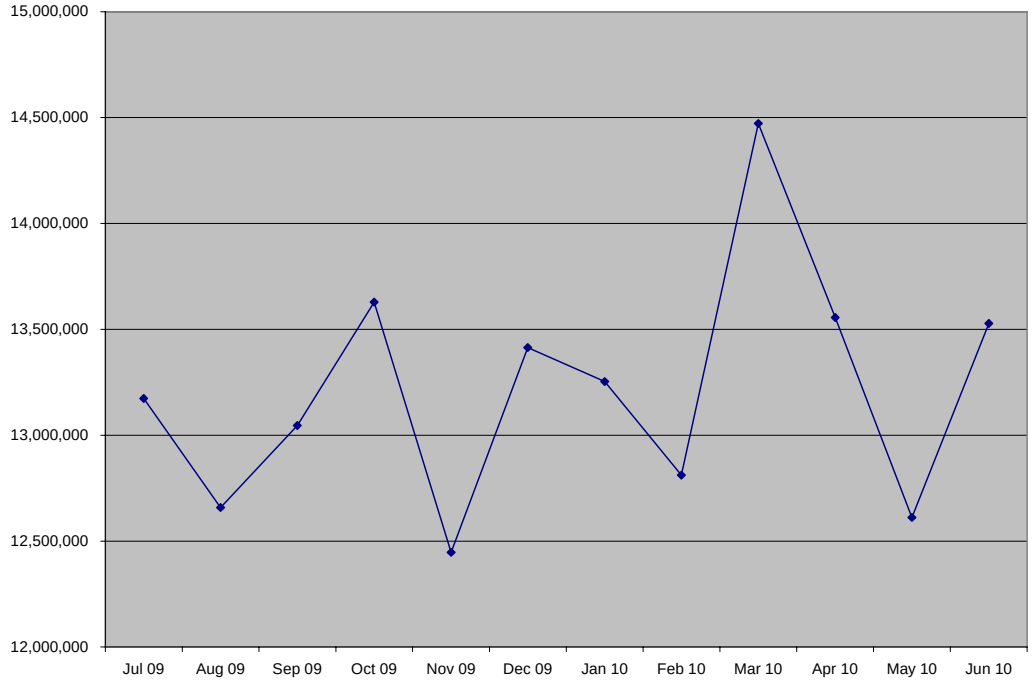
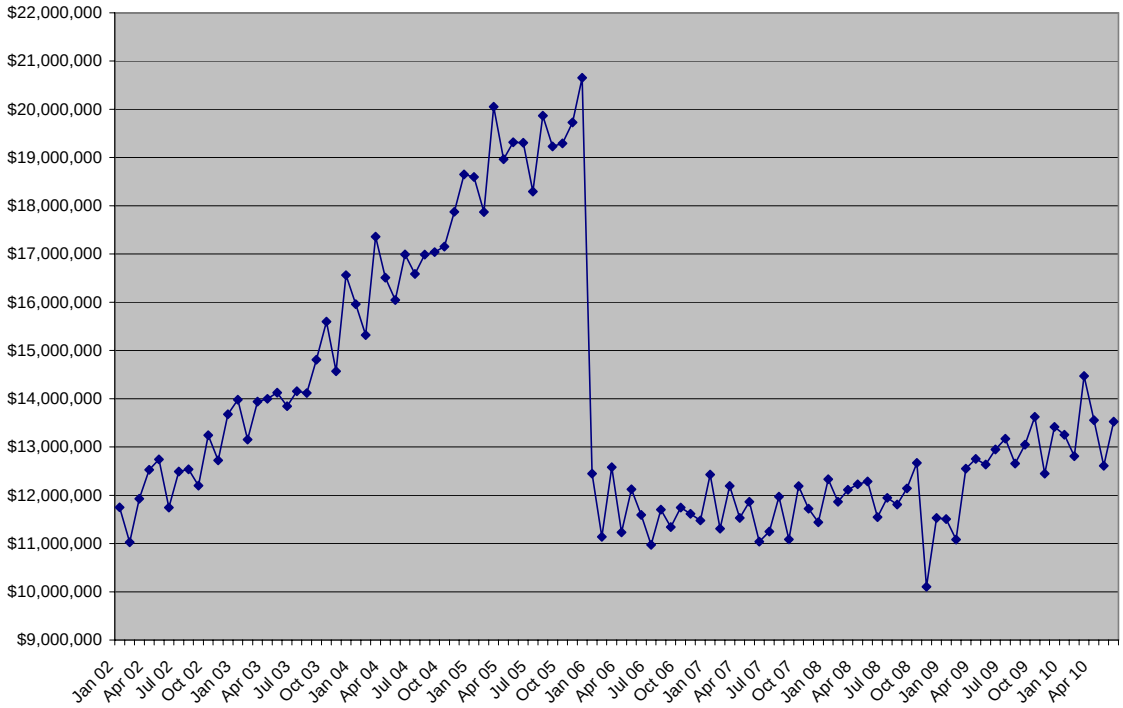


Figure 3 – Total Medicaid Drug Program Costs from January 2002 to June 2010

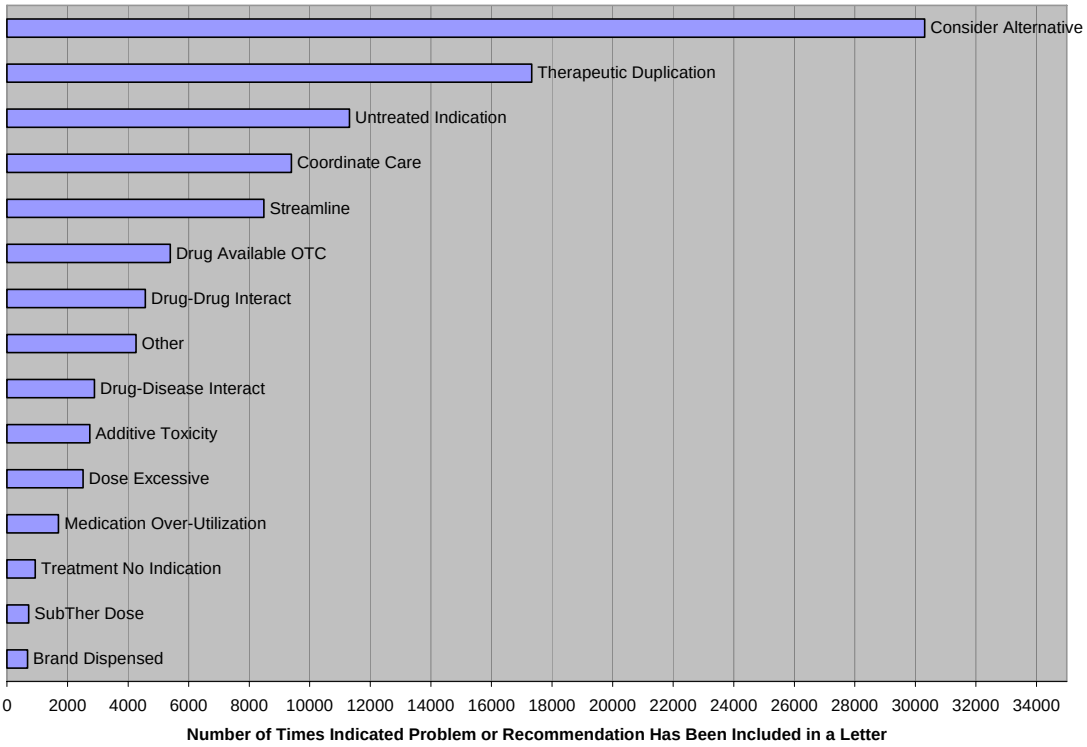


Increases in total drug spend during the past three fiscal years have been 2.6% (July 2007 to June 2008), 8.4% (July 2008 to June 2009) and recently 2.7% (July 2009 to June 2010). Several factors are responsible for increased costs, including an increase in Medicaid enrollment.

PROGRAM SUMMARY

Figure 4 summarizes the drug related problems identified in the letters that have been sent to prescribers since the inception of the program in May 2002.

Figure 4 – 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 was for the prescriber to consider alternative therapy. This recommendation would have been made for a number of reasons, including considering a less costly alternative.

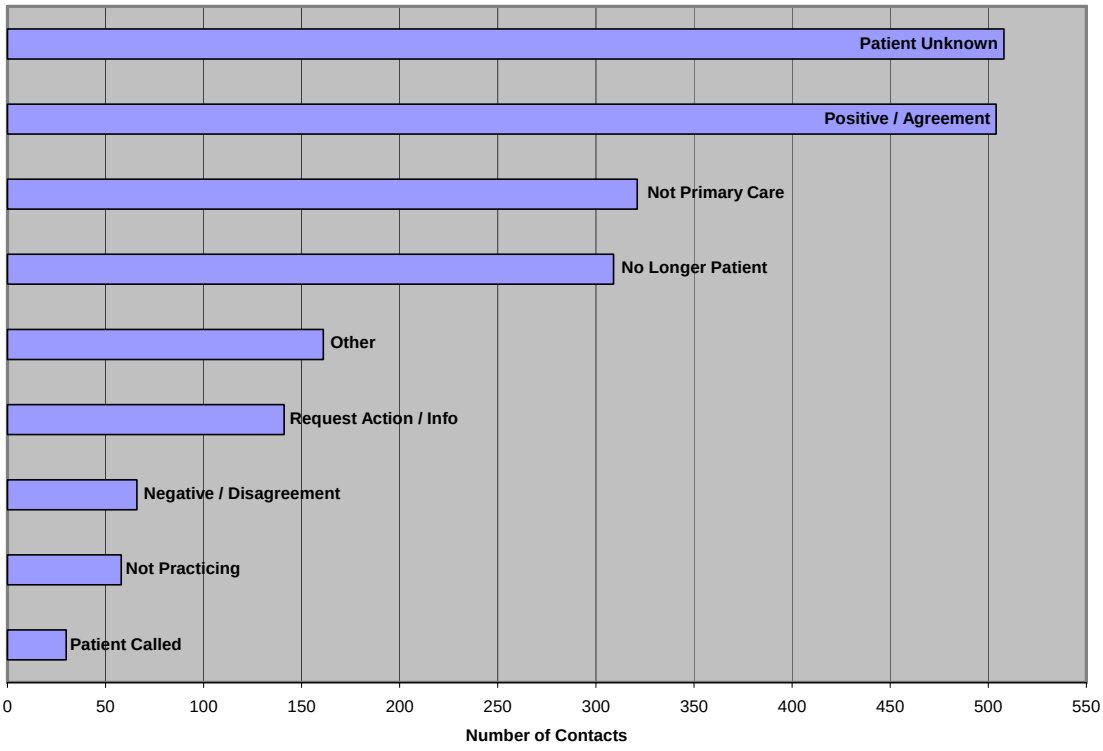
Therapeutic duplication recommendations were made when the patient was taking multiple therapeutic agents for the same indication when there was generally no reason to include therapy with more than one agent, and untreated indication recommendations were made if there was an absence of a medication that appeared to be needed based on usual best practice or guidelines.

Coordinate care relates to situations where it appeared that 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 5 summarizes the responses of the 2,098 individuals who have contacted the DRRC after receiving an intervention letter since the program's inception in May 2002.

Figure 5 – 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 of 2009, we began to include an anonymous opinion survey with our reviews that prescribers can fax back to let us know how we are doing. To date, almost all of the presribers who have responded have indicated that they read the information we provide, a majority include our comments in their patient's chart, and ratings of our reviews have been above average overall.

Table 1 – Summary of Survey Responses

TOTAL SURVEYS:	**185**		
I read and reviewed the accompanying drug list:	176	95.14%	
I put the review(s) into the patient's chart:	124	67.03%	
I discussed information from the review(s) with the patient:	45	24.32%	
I learned information about other drugs the patient was taking:	108	58.38%	
I learned information about drug costs for the patient(s):	126	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:	45.00		
Average Reported:	7.86		
Recommendations: Average Rating	3.09	1 TO 5	
List of Drugs: Average Rating	3.64	1 TO 5	
Identification of Other Prescribers: Average Rating	3.58	1 TO 5	
Cost Information: Average Rating	3.34	1 TO 5	
Timeliness of Information: Average Rating	3.02	1 TO 5	
Will the recommendations in this review influence future prescribing habits?			
Average Rating	3.05	1 TO 5	

DEMOGRAPHICS

Patients were selected for review based on three different criteria – risk score, risk sum and total number of fills. Table 2 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 1,742 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 2 – Patient Selection

	Total	Score Value	Score Count	Sum Value	Sum Count	Fills Value	Fills Count
Jul 09	126	16	32	12	34	21	71
Aug 09	108	16	32	12	25	21	56
Sep 09	179	15	114	12	35	21	40
Oct 09	106	15	39	12	25	21	47
Nov 09	101	15	47	12	20	20	40
Dec 09	275	15	32	11	201	21	54
Jan 10	97	17	44	14	35	23	58
Feb 10	138	16	67	14	23	20	74
Mar 10	195	15	110	13	34	21	82
Apr 10	141	15	56	12	71	21	40
May 10	137	15	64	12	43	21	51
Jun 10	139	16	35	12	59	21	64
TOTAL	**1742**		**672**		**605**		**677**

The 1,742 patients reviewed from July 2009 to June 2010 were separated into cohorts based on the month they were reviewed. Figure 6A summarizes the number of patients reviewed each month during this period. The average was 145 patients per month.

Figure 6a – Summary of Patients Reviewed Each Month from July 2009 to June 2010

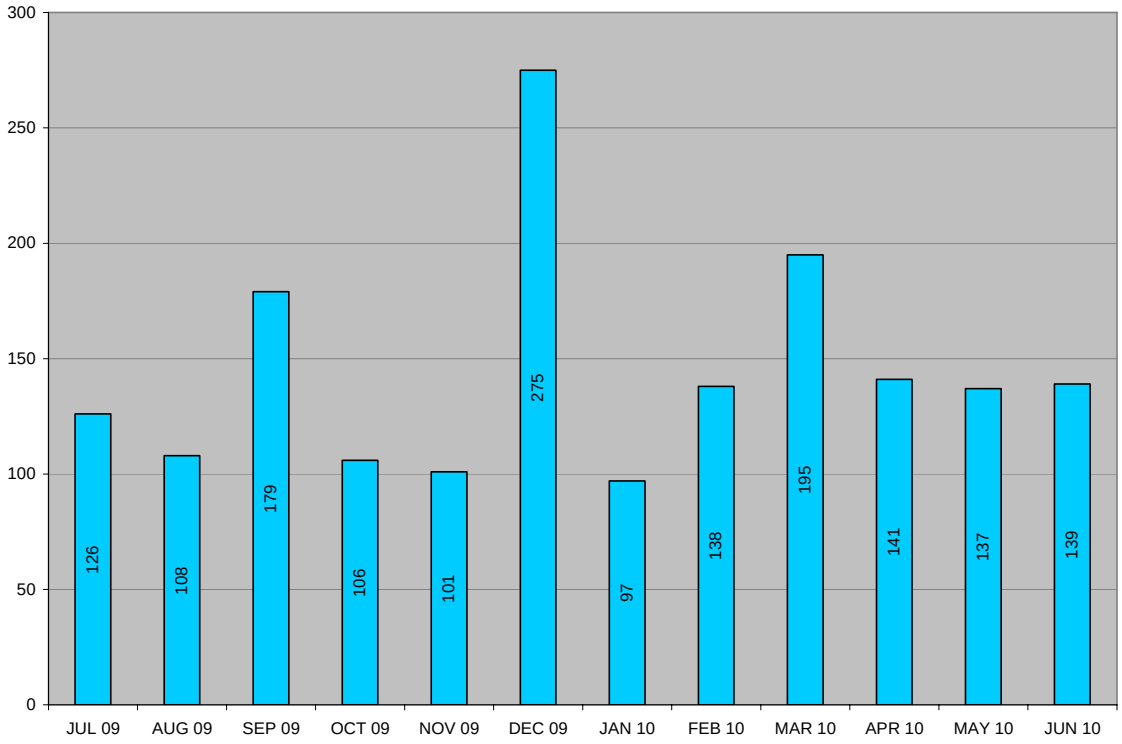
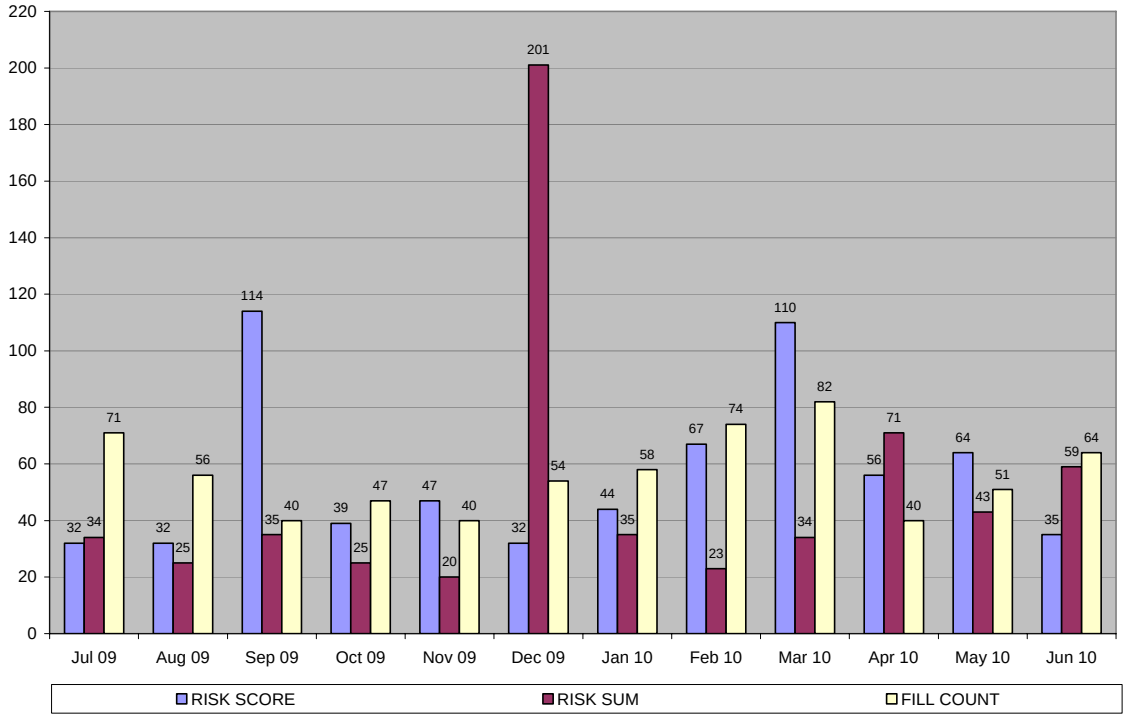


Figure 6b – Patients Reviewed by Selection Method



Demographics for all review cohorts are displayed in Tables 3, 3a, 3b and 3c 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 12 to 14 prescriptions per month

Table 3 – 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 09	70.6	47.5	14.6	67.39	29.4	41.2	11.6	81.61
Aug 09	75.1	44.3	13.0	70.91	24.9	44.4	11.5	90.79
Sep 09	62.6	47.6	10.1	78.12	37.4	43.6	10.0	89.97
Oct 09	68.0	43.6	12.6	65.75	32.0	45.8	11.0	66.03
Nov 09	67.4	45.5	12.5	65.75	32.6	45.8	9.6	83.43
Dec 09	72.8	46.2	11.0	69.05	27.2	42.8	11.1	74.92
Jan 10	72.3	50.5	16.4	62.83	27.7	47.3	18.0	62.18
Feb 10	71.5	48.7	14.1	76.03	28.5	46.1	11.6	72.01
Mar 10	73.3	46.5	12.5	72.80	26.7	42.7	10.7	104.51
Apr 10	73.7	48.3	11.8	72.58	26.3	44.4	12.4	97.06
May 10	69.4	46.2	13.3	74.01	30.6	45.1	10.4	60.62
Jun 10	69.6	48.7	14.7	69.27	30.1	42.8	9.5	70.93
ALL	**70.6**	**46.9**	**12.7**	**70.54**	**29.4**	**44.1**	**11.1**	**79.97**

Table 3a – Patients Selected by RX Risk Score

	Females				Males			
MONTH	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**
Jul 09	56.7	54.1	10.1	43.68	43.3	45.1	8.1	76.17
Aug 09	65.5	46.4	6.2	53.51	34.5	47.3	5.8	101.71
Sep 09	61.7	49.4	7.8	69.62	38.3	45.8	8.2	87.06
Oct 09	61.5	46.1	8.1	42.69	38.5	44.9	8.4	86.19
Nov 09	58.1	50.8	8.8	49.79	41.9	51.3	7.1	72.97
Dec 09	56.7	50.5	7.1	64.79	43.3	48.2	9.8	46.95
Jan 10	73.8	52.3	13.2	50.56	26.2	48.2	15.7	71.54
Feb 10	64.6	50.5	11.5	82.02	35.4	48.3	9.6	88.94
Mar 10	74.1	48.8	9.3	64.08	25.9	44.3	6.7	91.53
Apr 10	69.8	48.9	10.8	76.95	30.2	46.8	9.6	85.52
May 10	64.4	49.3	10.5	57.08	35.6	49.2	7.6	58.08
Jun 10	48.8	49.5	12.9	59.79	51.2	50.2	7.2	84.25
ALL	**64.5**	**49.6**	**9.7**	**62.66**	**35.5**	**47.2**	**8.4**	**79.46**

Table 3b – Patients Selected by RX Risk Sum

	Females				Males			
MONTH	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**
Jul 09	90.1	46.4	13.2	73.61	9.9	44.3	10.7	102.03
Aug 09	95.7	48.1	11.5	63.65	4.3	48.0	9.0	72.26
Sep 09	71.9	44.8	12.6	85.65	28.1	50.7	11.7	71.10
Oct 09	62.5	44.5	12.2	58.74	37.5	50.7	9.2	79.54
Nov 09	80.1	46.1	13.7	76.65	19.9	50.3	12.0	93.54
Dec 09	74.6	45.9	10.4	66.39	25.4	42.9	10.5	78.99
Jan 10	70.9	48.8	20.2	60.75	29.1	52.0	23.1	67.16
Feb 10	76.2	50.4	14.4	79.71	23.8	45.2	11.8	64.10
Mar 10	80.6	48.7	15.6	88.98	19.4	51.5	17.0	70.88
Apr 10	82.4	50.2	11.8	72.51	17.6	52.9	14.0	82.61
May 10	72.1	49.6	12.9	81.99	27.9	50.6	12.4	62.58
Jun 10	78.2	48.1	14.2	69.98	21.8	45.3	9.5	82.38
ALL	**77.1**	**47.4**	**12.6**	**71.71**	**22.9**	**47.2**	**12.1**	**75.86**

Table 3c – Patients Selected by Fill Count

	Females				Males			
MONTH	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**	**Percent**	**Mean Age**	**Mean # Rx**	**Mean Cost Per RX**
Jul 09	68.9	46.3	18.4	70.71	31.1	37.8	14.8	83.02
Aug 09	72.9	41.8	16.2	74.69	27.1	40.3	17.1	89.37
Sep 09	60.1	45.1	17.2	79.14	39.9	34.4	13.8	98.32
Oct 09	73.8	42.2	16.7	73.63	26.2	44.3	15.2	51.08
Nov 09	68.6	39.6	16.7	64.45	31.4	38.1	13.3	101.24
Dec 09	71.4	44.4	16.5	78.36	28.6	38.2	16.8	73.00
Jan 10	68.9	49.5	21.4	62.27	31.1	46.4	20.7	54.13
Feb 10	77.4	47.6	17.9	73.01	22.6	43.9	15.7	69.74
Mar 10	72.3	43.1	18.7	78.67	27.7	39.3	16.3	110.43
Apr 10	63.9	48.6	18.0	63.88	36.1	36.4	16.6	113.46
May 10	76.2	40.5	17.6	79.33	23.8	36.3	16.4	57.22
Jun 10	81.5	49.1	18.1	71.52	18.5	27.7	13.2	56.94
ALL	**72.1**	**44.9**	**17.9**	**72.64**	**27.9**	**39.0**	**15.8**	**80.71**

PROGRAM TRENDS

Figures 7, 7a, 7b and 7c show the average and range of the number of prescriptions for each of the reviewed cohorts. The mean number of prescriptions that triggered a patient review generally ranged from 11 to 14, while the maximum number of prescriptions for a reviewed patient exceeded 35.

Figure 7 – Average, Minimum and Maximum Number of Prescriptions per Review Group: All Reviewed Patients

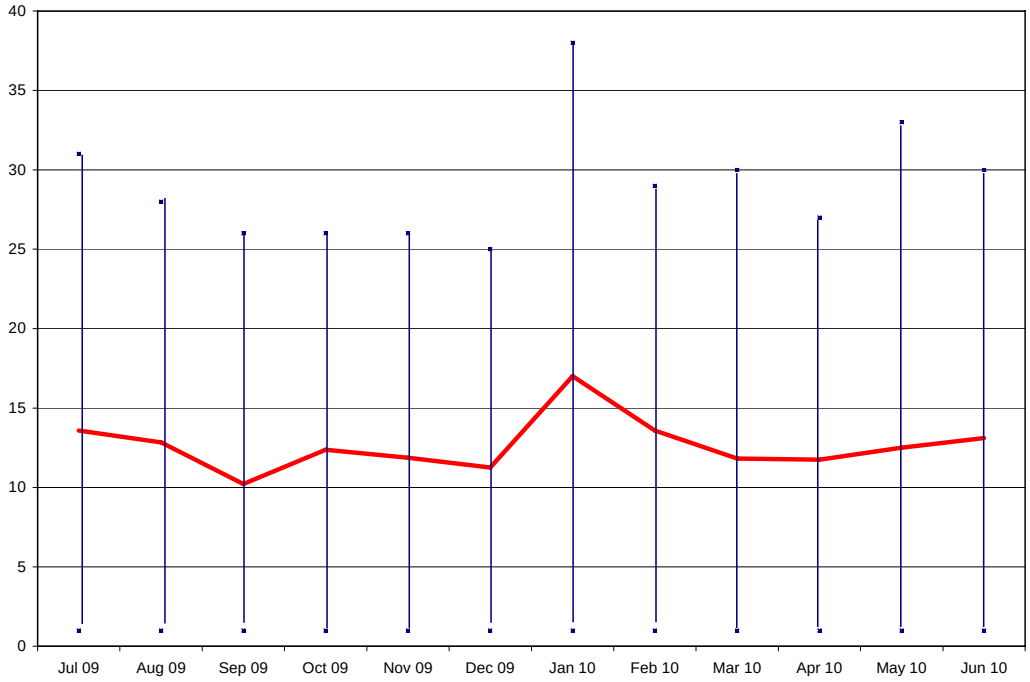


Figure 7a – Patients Selected by RX Risk Score

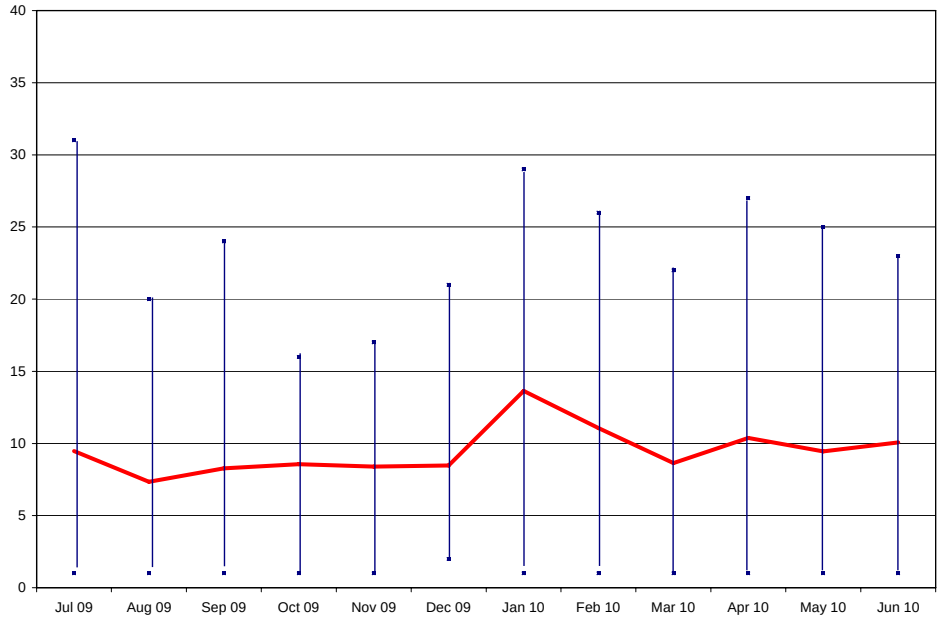


Figure 7b – Patients Selected by RX Risk Sum

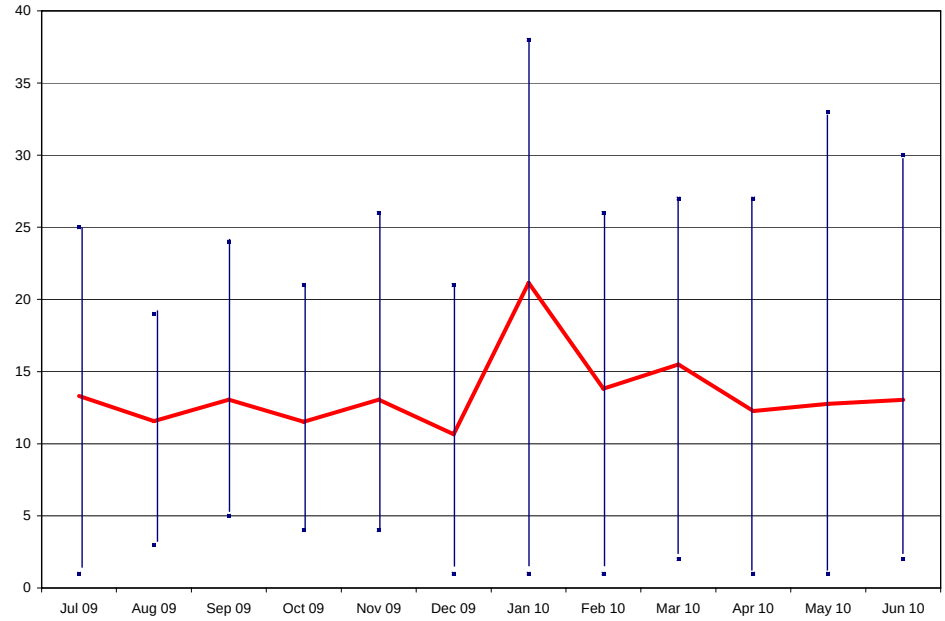
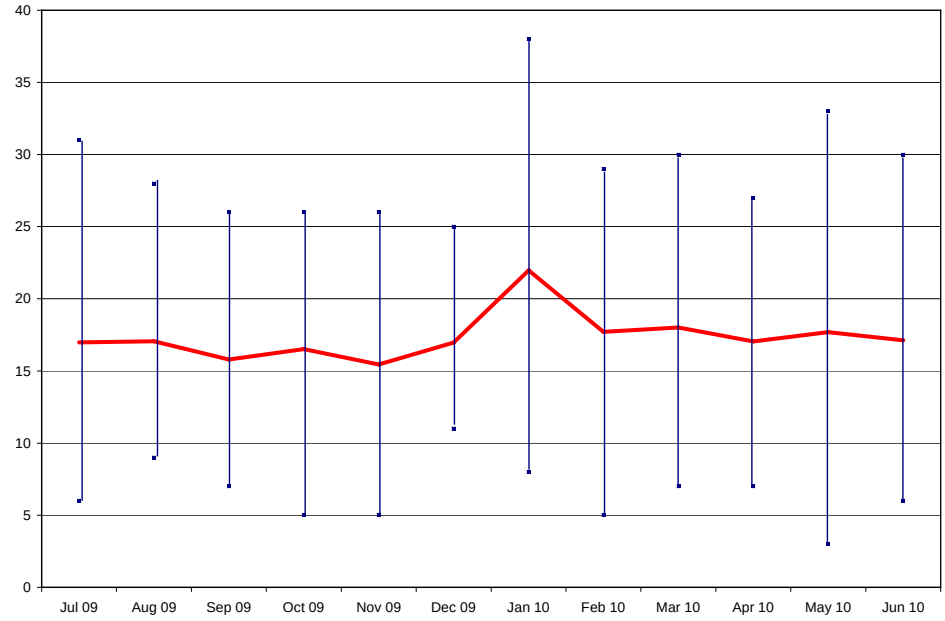


Figure 7c – Patients Selected by Fill Count



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 33-year-old female with diagnoses of multiple chronic conditions, including bipolar disorder and diabetes, was reviewed. During the review month, the patient had filled prescriptions for 29 medications written by two prescribers, a primary care physician and a mental health specialist.

The patient had regularly been receiving prescriptions for four medications with strong anti-cholinergic effects, including amitriptyline, cyclobenzaprine, diphenhydramine and oxybutynin. 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.

The patient had been receiving a prescription for Avandia, a thiazolidinedione used to treat diabetes. We recommended that the patient be changed to an alternative thiazolidinedione, Actos, as Avandia has been shown to increase heart attack risk.

The patient had been filling prescriptions for both Lyrica and gabapentin, two anticonvulsants which are structurally similar and have a similar mechanism of action. We recommended that the patient be stabilized on only one of these medications since they are not recommended for use together.

Finally, the patient had been receiving a prescription for Ambien CR, a name-brand insomnia treatment. We recommended that the patient be changed to Ambien, an alternative formulation of the same active ingredient that is available generically and is much less costly. Both 10 mg Ambien and 12.5 mg Ambien CR tablets immediately release 10 mg of zolpidem. Ambien CR begins to release an additional 1.5 mg three hours later, a difference that may not be clinically significant for many patients.

Other identified drug related problems, which were not addressed in the letter in order to maintain a concise message, included the use of multiple sedatives, the use of two antipsychotics and the use of an angiotensin receptor blocker (ARB) rather than an ACE-inhibitor.

Shortly after a report was faxed to the patient's two prescribers, the mental health prescriber responded to us using a survey we provide with all reviews. On a scale of 1 to 5, with 1 being not likely at all and 5 being very likely, this physician rated his likeliness to implement our recommendations concerning multiple anti-cholinergic medications and duplicative therapy at 4.

The prescriber indicated that Ambien had been tried previously in this patient and was not effective. An assessment of our recommendation to change from Avandia to Actos was not given, and the provider noted that this recommendation would be up to the primary care provider to implement.

PATIENT 2

The review of a 45-year-old woman's drug regimen raised three possible drug related problems for her physician. Two of the issues concerned duplicative therapy and the third was a common and possibly overlooked problem.

The first issue concerned two proton pump inhibitors, both of which were being refilled and both of which were prescribed by the same doctor. From a clinical aspect this is duplicative therapy and affords the patient no added benefit. Most likely the physician was switching medications and the patient did not realize that one was to replace the other and continued taking both. If this was the case, the physician is now alerted to the problem and has with the dispensing pharmacy's information to call and discontinue one of the prescriptions.

Another possible duplication of therapy on this patient involved cough suppressants. For a couple of years this patient had received Tessalon Perles to suppress her chronic cough. More recently she had started to receive narcotics to treat pain. Because narcotics are very effective at suppressing cough, the pain medication may have served a dual purpose. This issue was raised for the physician's consideration. If the Tessalon Perles are discontinued the overall regimen is streamlined and more effective.

Finally, an important drug related problem physicians often overlook is narcotic induced constipation. Up to 95% of patients receiving long-term opioid therapy will report constipation when questioned. Therefore, we recommended a prophylactic bowel regimen in order to be proactive and avoid a future problem for the patient.

PATIENT 3

At the time of the original review of this patient, she had visited the emergency department 46 times in the previous two years. In the month of review, she also received 25 prescriptions from 14 prescribers. Of those, she received 11 opioids from 10 different prescribers. We sent a letter to each prescriber with a recommendation to use caution in prescribing to this patient and to coordinate care between prescribers. We also recommended that she be referred to the Medicaid restriction program.

On follow up, this patient has been eligible for Medicaid continuously since the time of the review, but she has only filled two prescriptions under Medicaid -- both from the same prescriber. She did visit emergency departments ten times in that time period and was not placed on restriction.

The prescription utilization for this patient from a Medicaid standpoint has improved dramatically. The number of emergency department visits has been reduced but is still excessive. It is likely that this patient has a significant substance abuse problem and uses emergency departments as a vehicle for this abuse.

As several of the prescribing physicians were based in emergency departments, it is possible that those physicians or facilities have restricted the patient’s use of those facilities resulting in the reduced utilization. The sudden drop of prescription utilization without associated loss of eligibility indicates that this patient likely seeks prescriptions on a cash basis rather than through Medicaid now.

PATIENT 4

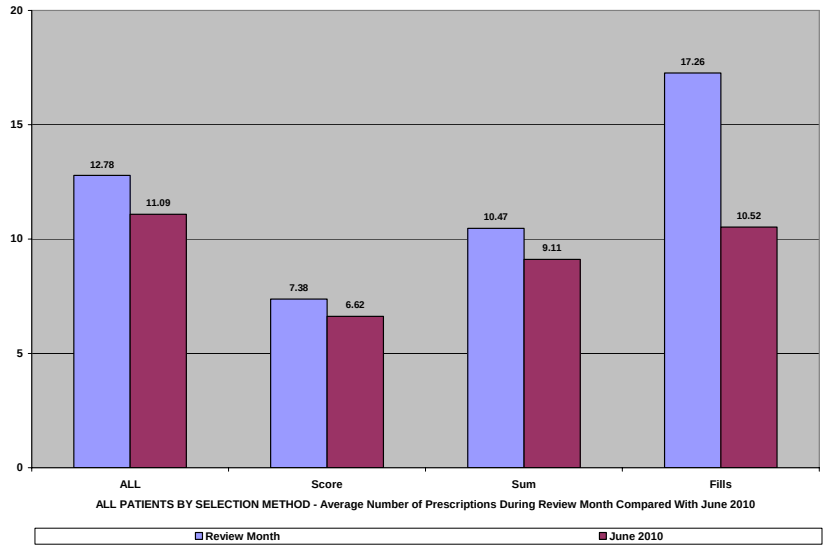
The drug regimen of a 61-year-old male with diagnoses of diabetes and liver dysfunction was reviewed and we discovered that he had filled a prescription for metformin at a dose of 4000 mg daily or an entire month. This exceeds the maximum recommended dose of 2550 mg daily and is a serious safety concern, as metformin carries a black box warning of lactic acidosis, a life threatening metabolic complication. Liver dysfunction further increases the risk of this complication due to reduced clearance of lactate.

We contacted the pharmacy to see if this was a prescribing error or a dispensing error. The pharmacist pulled the original prescription and confirmed that this was a dispensing error. The intended dose was 2000 mg daily. The incorrect dose had been given to the patient for three months. The pharmacy corrected the mistake and we contacted the prescribing physician by phone, as well as in a faxed letter, notifying him of the pharmacy error. We recommended that the physician contact the patient to assess his clinical status and to instruct him to discontinue the high-dose metformin.

PROGRAM EFFECTIVENESS: PRESCRIPTIONS

Figure 8 shows the average number of prescriptions per reviewed patient, by selection method, from July 2009 to June 2010, compared to the average number of prescriptions for those same patients in June 2010, the most recent month with data available.

Figure 8 – Average Fills during Review Month Compared with June 2010 for All Patients by Selection Method



The number of prescriptions dispensed has decreased for all review cohorts, regardless of selection method, but the biggest decreases are seen among patients selected for number of fills.

Figures 9, 9a, 9b and 9c show the average number of prescriptions per reviewed patient for each month from July 2009 to June 2010, compared to the average number of prescriptions filled by the same patients in June 2010, the most recent month with data available.

Figure 9 – Average Fills during Review Month Compared with June 2010 for All Reviewed Patients

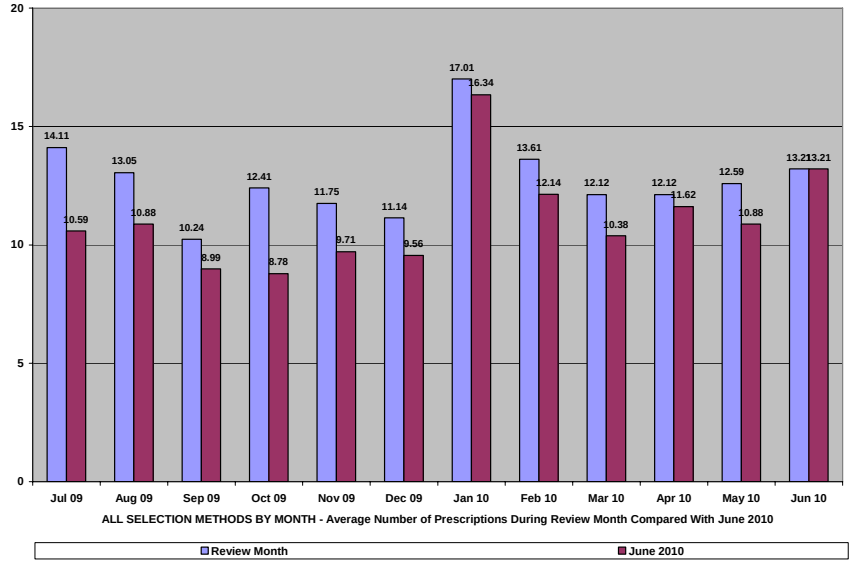


Figure 9a – Patients Selected by RX Risk Score

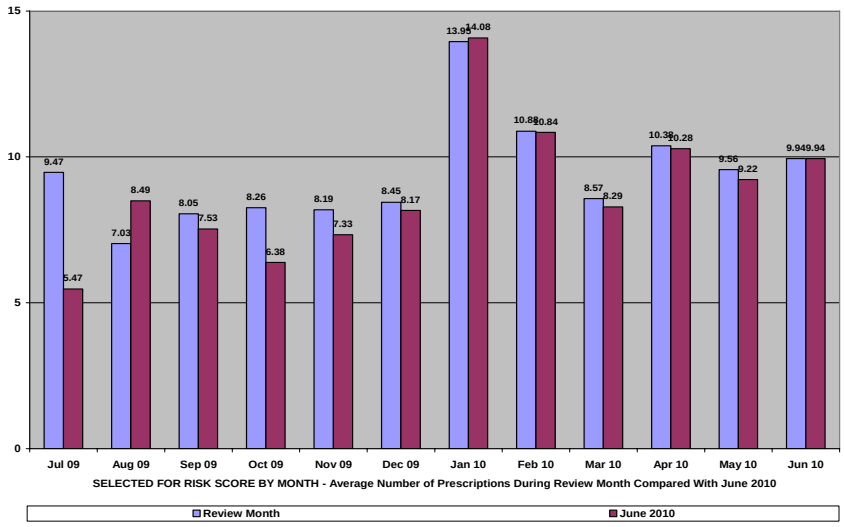


Figure 9b – Patients Selected by RX Risk Sum

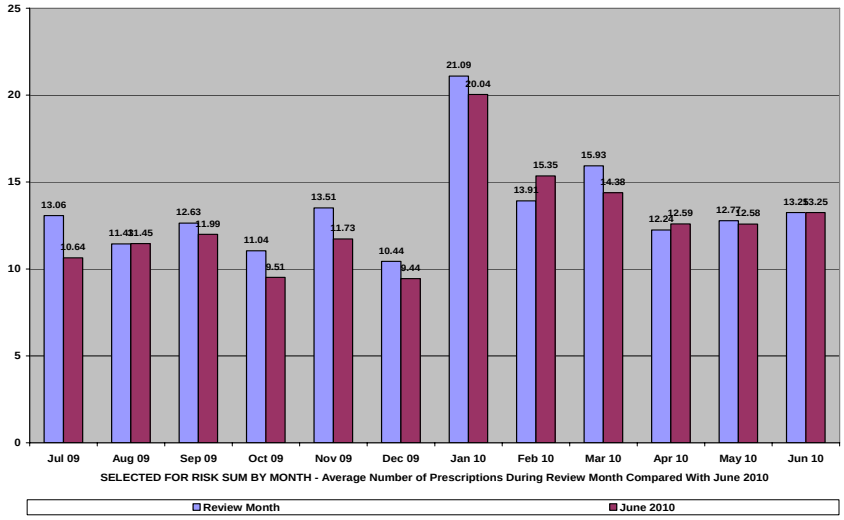
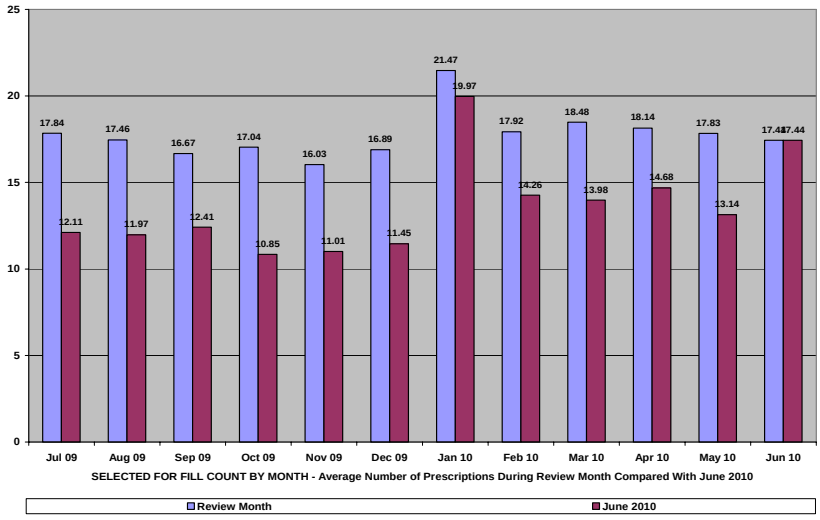


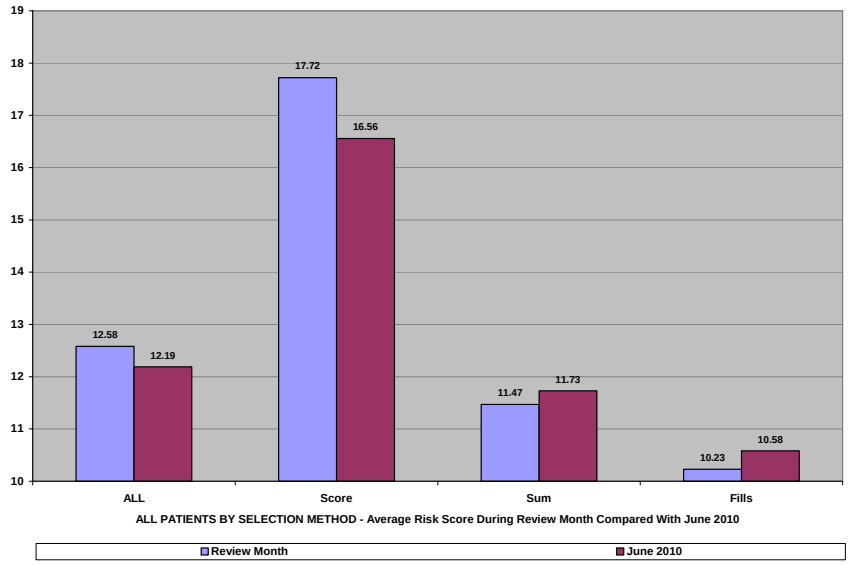
Figure 9c – Patients Selected by Fill Count



PROGRAM EFFECTIVENESS: RISK

Figure 10 shows the average risk score per reviewed patient, by selection method, from July 2009 to June 2010, compared to the average risk score for those same patients in June 2010, the most recent month with data available. A slight overall drop in risk score was seen in patients selected on the basis of risk score but not in patients selected using other criteria.

Figure 10 – Average Risk Score during Review Month Compared with June 2010 for All Patients by Selection Method



Figures 11, 11a, 11b and 11c show the average risk score per reviewed patient for each month from July 2009 to June 2010, compared to the average risk score for the same patients in June 2010, the most recent month with data available.

Figure 11 – Average Risk Score during Review Month Compared with June 2010 for All Reviewed Patients

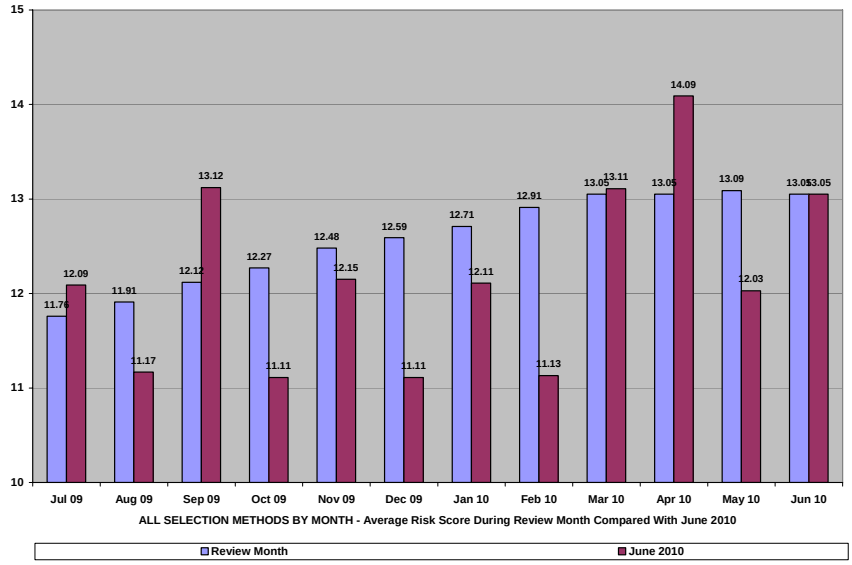


Figure 11a – Patients Selected by RX Risk Score

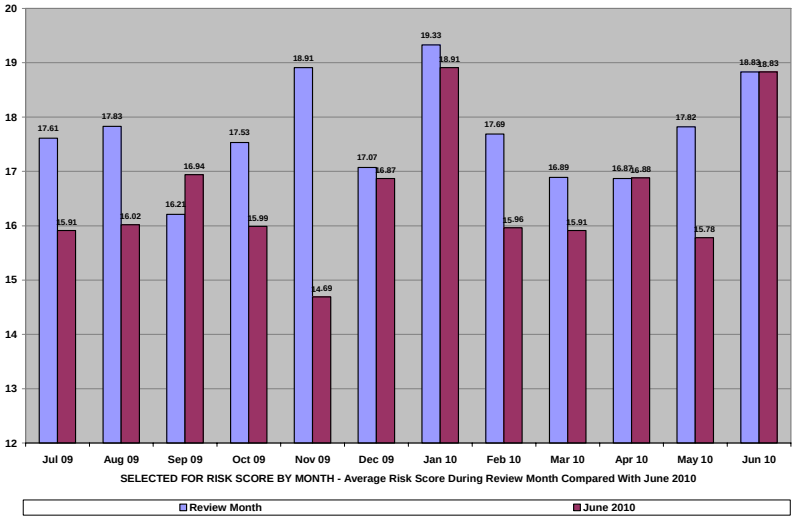


Figure 11b – Patients Selected by RX Risk Sum

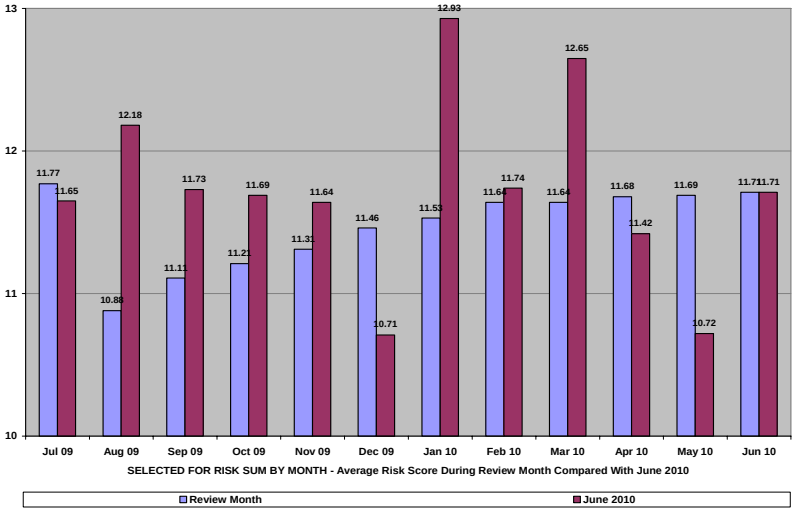
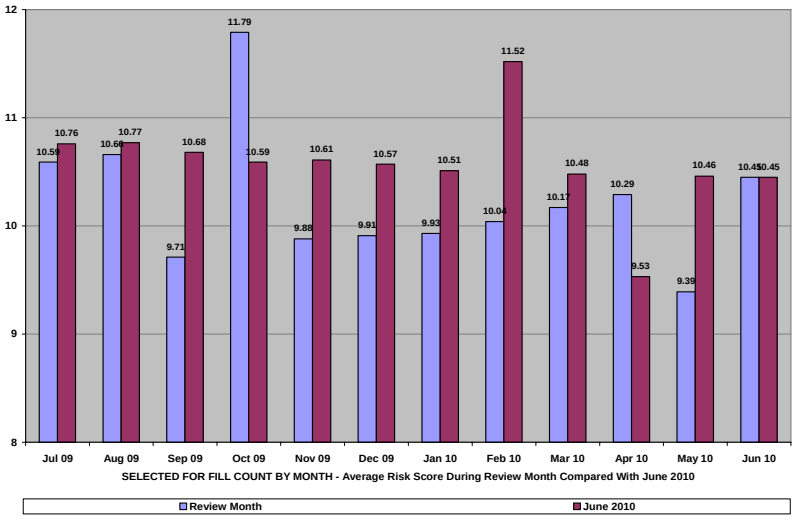


Figure 11c – Patients Selected by Fill Count



HEALTHY U FOLLOW UP STUDY

Beginning in July 2009, the center participated in a study of 200 University of Utah Healthy U Medicaid managed care patients with prescriptions for anti-hypertensives who were at high risk of increased medical expenditures and morbidity based on medication use. The goal of this analysis was to evaluate the changes in outcomes in an "evaluation" month six months after the initial review. Outcomes considered included risk score, count of co-morbidities, number of drug therapy problems, number of medications filled and number of providers to whom letters would have been sent if the patient were to receive the intervention again.

Each month, the university Healthy U program provided the DRRC with patients who were eligible for benefits in that month. We then pulled prescription drug claims for those patients and ran those claims against a modified risk tool in order to calculate several patient-level data-points. Ranking by risk score, we identified patients who were at the highest risk for future medical expenditures and associated morbidity and who had filled prescriptions for medications that treat hypertension-related disorders.

As with the regular reviews, pharmacists had access to pharmacy claims, diagnosis codes, and procedure codes from the month of the review and the prior year. For this group of patients, pharmacists were also granted access to University of Utah Hospitals & Clinics electronic medical records to in order to review clinical information about patient encounters when they were seen in the university system. This augmented the information pharmacists used in making recommendations. Pharmacists then identified drug therapy problems and sent a letter to the patient's medication prescribers.

Six months after the review month, the first 80 reviewed patients were re-evaluated. The re-evaluation consisted of a complete re-review and included all the steps in the review process except actually sending the letter. Pharmacists were blinded to the fact that each follow-up review was not a standard review and patients were assigned to a different pharmacist than the one that had done the initial review.

Most drug therapy problems identified in the review month were gone in the evaluation month and, although there were some new problems identified in the evaluation month, there were about 25% fewer problems overall at the follow up. This suggests that our recommendations may have been heeded by recipients of our letters. There were also slight decreases in the mean risk co-morbidity score and the count of co-morbid conditions between the review and evaluation months.

Figure 12a – Mean Count by Month of Drug Therapy Problems Identified in Reviewed Patients

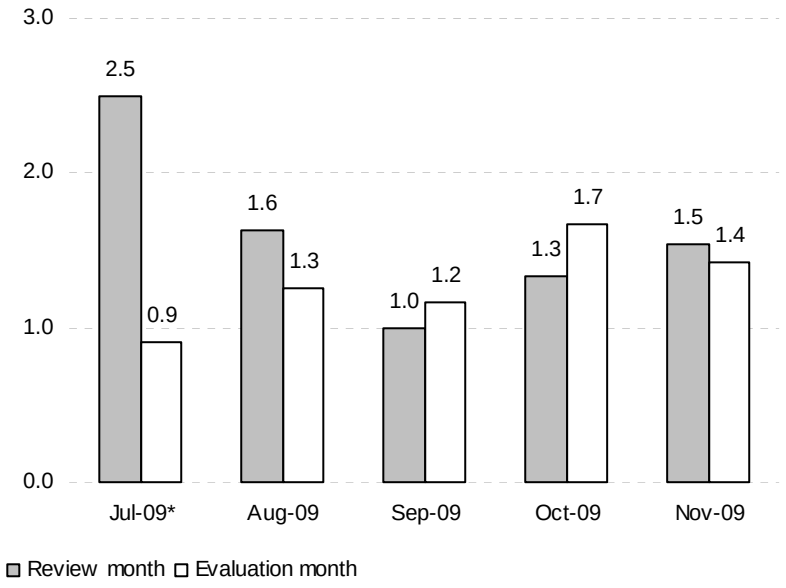


Figure 12b – Mean Risk Co-Morbidity Score by Month in Reviewed Patients

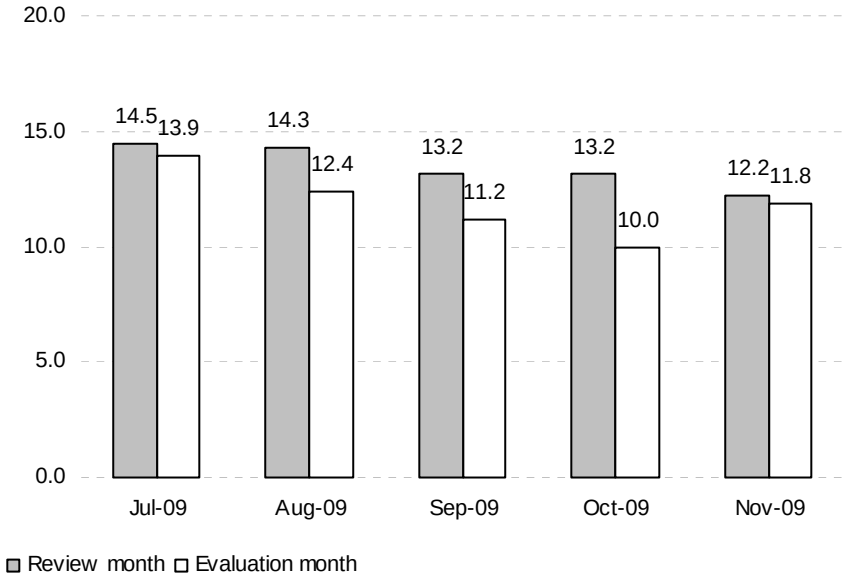
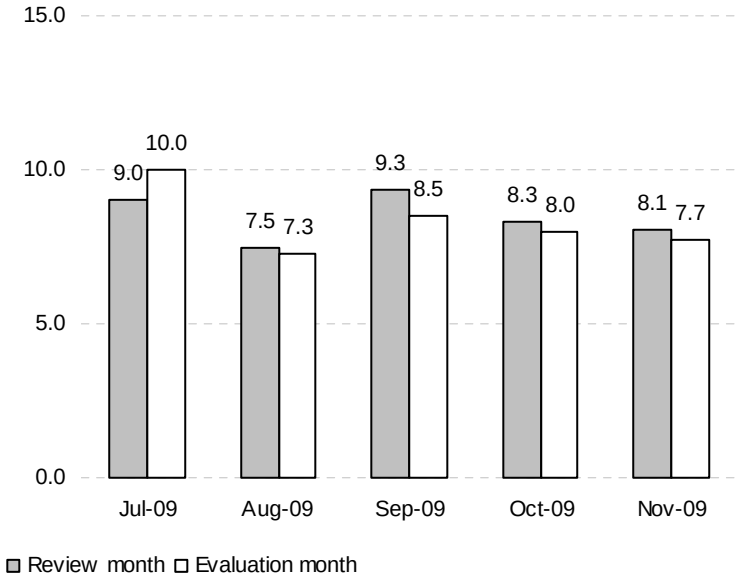


Figure 12c – Mean Count of Co-Morbid Conditions by Month in Reviewed Patients



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 patients reviewed between July 2009 and June 2010, total drug cost during the review month was used as the baseline amount for comparison. Costs were compared for the baseline amount with the amount for June 2010. For example, costs in February 2010 and June 2010 were compared for patients reviewed during February 2010. Additional cost savings for patients reviewed before July 2009 are not included, nor are additional savings that would be expected after June 2010 for patients included in this report.

Assuming total Medicaid drug costs remain constant after the month of review, drug costs for reviewed patients from July 2009 through June 2010 decreased by $1,355,202.

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 the associated lower costs, of hospital admissions.

Table 4

Drug Cost Savings in DRRC Reviewed Patients

TOTAL	**$1,355,202**
Selected by: RISK SCORE	$173,075
Selected by: RISK SUM	$17,181
Selected by: FILL COUNT	$1,301,468

SEE APPENDIX A

APPENDIX A

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

	Jul 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**113,353**	80,301	73,388	84,711	73,472	82,687	73,145	70,310	82,945	81,858	96,283	93,762	1,006,214	1,360,237	354,023
Aug 09		**98,841**	71,110	72,762	59,224	67,495	65,317	61,908	71,545	73,049	67,132	69,493	777,876	1,087,247	309,371
Sep 09			**103,886**	83,678	79,062	84,837	75,039	79,138	81,726	80,300	78,641	85,069	831,376	1,038,862	207,486
Oct 09				**66,450**	54,384	62,495	55,809	57,901	58,221	52,913	48,377	49,208	505,757	598,051	92,294
Nov 09					**65,598**	54,931	47,366	48,096	59,473	54,462	53,515	59,922	443,364	524,783	81,419
Dec 09						**162,518**	142,153	126,832	155,241	146,199	134,503	145,178	1,012,624	1,137,624	125,001
Jan 10							**123,484**	107,519	124,475	114,789	104,977	109,346	684,590	740,904	56,314
Feb 10								**141,260**	129,872	123,810	110,461	135,918	641,320	706,298	64,978
Mar 10									**145,267**	137,040	130,952	123,260	536,520	581,069	44,549
Apr 10										**101,895**	93,717	95,272	290,884	305,686	14,802
May 10											**98,826**	93,860	192,687	197,653	4,966
Jun 10												**136,759**			
												TOTAL	**6,923,213**	**8,278,414**	**1,355,202**
PATIENTS	71	68	102	56	55	176	75	94	106	83	89	108			

*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 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**1,597**	1,131	1,034	1,193	1,035	1,165	1,030	990	1,168	1,153	1,356	1,321	14,172	19,158	4,986
Aug 09		**1,454**	1,046	1,070	871	993	961	910	1,052	1,074	987	1,022	11,439	15,989	4,550
Sep 09			**1,018**	820	775	832	736	776	801	787	771	834	8,151	10,185	2,034
Oct 09				**1,187**	971	1,116	997	1,034	1,040	945	864	879	9,031	10,679	1,648
Nov 09					**1,193**	312	632	512	561	656	601	555	5,021	9,542	4,520
Dec 09						**923**	808	721	882	831	764	825	5,754	6,464	710
Jan 10							**1,646**	1,434	1,660	1,531	1,400	1,458	9,128	9,879	751
Feb 10								**1,503**	1,382	1,317	1,175	1,446	6,823	7,514	691
Mar 10									**1,370**	1,293	1,235	1,163	5,062	5,482	420
Apr 10										**1,228**	1,129	1,148	3,505	3,683	178
May 10											**1,110**	1,055	2,165	2,221	56
Jun 10												**1,266**			

REVIEWED PATIENTS SELECTED FOR RISK SCORE - NO INCREASE IN COSTS ASSUMED

	Jul 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**9,707**	7,982	5,628	5,404	7,570	6,569	5,698	5,810	4,297	4,957	3,819	4,315	71,755	116,489	44,733
Aug 09		**10,822**	11,893	11,708	6,114	8,176	8,250	6,927	7,153	6,215	8,855	6,900	93,013	119,046	26,033
Sep 09			**51,674**	42,903	44,255	44,844	40,433	43,717	43,366	40,844	42,696	45,795	440,527	516,741	76,214
Oct 09				**10,125**	8,359	8,811	10,323	7,887	10,666	10,604	10,323	10,934	88,031	91,123	3,092
Nov 09					**12,393**	14,579	11,326	11,173	11,977	14,720	11,708	12,566	100,442	99,141	-1,301
Dec 09						**9,070**	6,041	4,591	7,707	5,388	5,479	7,070	45,345	63,491	18,146
Jan 10							**37,633**	35,284	41,067	44,429	37,464	36,033	231,910	225,799	-6,111
Feb 10								**60,601**	61,040	56,803	44,289	71,853	294,586	303,003	8,417
Mar 10									**43,299**	46,325	43,164	40,523	173,311	173,196	-115
Apr 10										**31,856**	27,441	30,079	89,376	95,567	6,191
May 10											**27,923**	30,145	58,068	55,846	-2,222
Jun 10												**21,079**			
												TOTAL	1,686,365	1,859,440	173,075
PATIENTS	32	32	114	39	47	32	44	67	110	56	64	35			

*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 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**303**	249	176	169	237	205	178	182	134	155	119	135	2,242	3,640	1,398
Aug 09		**338**	372	366	191	256	258	216	224	194	277	216	2,907	3,720	814
Sep 09			**453**	376	388	393	355	383	380	358	375	402	3,864	4,533	669
Oct 09				**260**	214	226	265	202	273	272	265	280	2,257	2,336	79
Nov 09					**264**	456	257	167	109	263	183	359	2,057	2,109	52
Dec 09						**283**	189	143	241	168	171	221	1,417	1,984	567
Jan 10							**855**	802	933	1,010	851	819	5,271	5,132	-139
Feb 10								**904**	911	848	661	1,072	4,397	4,522	126
Mar 10									**394**	421	392	368	1,576	1,575	-1
Apr 10										**569**	490	537	1,596	1,707	111
May 10											**436**	471	907	873	-35
Jun 10												**602**			

REVIEWED PATIENTS SELECTED FOR RISK SUM - NO INCREASE IN COSTS ASSUMED

	Jul 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**28,580**	22,097	22,198	23,764	17,087	24,594	18,988	19,771	27,561	21,538	21,683	28,369	276,230	342,957	66,726
Aug 09		**13,670**	18,112	15,212	11,557	16,060	12,566	12,823	19,229	17,059	17,022	17,769	171,080	150,369	-20,711
Sep 09			**11,417**	12,188	10,010	10,355	9,984	9,828	10,463	11,276	10,216	10,968	106,705	114,165	7,461
Oct 09				**14,359**	14,072	16,717	14,591	11,737	13,664	12,983	11,877	10,299	120,298	129,234	8,936
Nov 09					**9,946**	10,799	10,777	11,116	19,208	11,300	16,027	18,088	107,260	79,570	-27,690
Dec 09						**112,101**	110,796	96,207	120,339	113,040	97,887	109,819	760,188	784,704	24,516
Jan 10							**46,959**	41,210	51,380	52,389	46,797	44,854	283,590	281,756	-1,834
Feb 10								**22,953**	30,548	32,009	26,555	30,768	142,834	114,767	-28,067
Mar 10									**37,569**	41,104	39,833	40,751	159,257	150,277	-8,980
Apr 10										**59,188**	56,437	61,454	177,079	177,565	486
May 10											**37,875**	41,538	79,413	75,750	-3,662
Jun 10												**56,920**			
												TOTAL	**2,383,934**	**2,401,115**	**17,181**

PATIENTS	24	18	15	16	9	142	27	19	25	55	37	54

*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 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**1,191**	921	925	990	712	1,025	791	824	1,148	897	903	1,182	11,510	14,290	2,780
Aug 09		**759**	1,006	845	642	892	698	712	1,068	948	946	987	9,504	8,354	-1,151
Sep 09			**761**	813	667	690	666	655	698	752	681	731	7,114	7,611	497
Oct 09				**897**	879	1,045	912	734	854	811	742	644	7,519	8,077	559
Nov 09					**1,105**	76	399	585	768	205	433	335	3,907	8,841	4,934
Dec 09						**789**	780	678	847	796	689	773	5,353	5,526	173
Jan 10							**1,739**	1,526	1,903	1,940	1,733	1,661	10,503	10,435	-68
Feb 10								**1,208**	1,608	1,685	1,398	1,619	7,518	6,040	-1,477
Mar 10									**1,503**	1,644	1,593	1,630	6,370	6,011	-359
Apr 10										**1,076**	1,026	1,117	3,220	3,228	9
May 10											**1,024**	1,123	2,146	2,047	-99
Jun 10												**1,054**			

REVIEWED PATIENTS SELECTED FOR FILL COUNT - NO INCREASE IN COSTS ASSUMED

	Jul 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**91,827**	58,578	52,000	61,141	54,986	60,372	53,057	51,157	58,469	61,864	77,531	70,851	751,833	1,101,920	350,087
Aug 09		**76,938**	45,065	48,997	42,973	45,731	46,341	43,590	46,671	51,229	43,797	46,734	538,066	846,319	308,253
Sep 09			**47,131**	33,331	29,709	34,189	28,865	29,225	32,518	32,954	29,726	33,206	330,854	471,312	140,458
Oct 09				**44,830**	34,304	39,415	33,969	40,779	36,803	32,572	29,803	30,545	323,019	403,467	80,448
Nov 09					**45,599**	31,062	26,738	28,279	29,834	30,858	27,438	31,223	251,033	364,792	113,759
Dec 09						**55,502**	33,648	32,460	38,696	34,500	39,590	37,407	271,803	388,515	116,712
Jan 10							**99,333**	84,342	95,817	85,964	84,789	85,773	536,019	596,001	59,982
Feb 10								**92,693**	83,028	70,824	75,198	76,532	398,275	463,463	65,188
Mar 10									**102,073**	91,615	87,972	81,744	363,404	408,290	44,886
Apr 10										**45,205**	38,580	38,475	122,260	135,615	13,355
May 10											**55,948**	47,609	103,557	111,897	8,339
Jun 10												**84,082**			
												TOTAL	**3,990,123**	**5,291,590**	**1,301,468**
PATIENTS	46	38	25	26	27	31	46	54	51	23	30	47			

*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 09	Aug 09	Sep 09	Oct 09	Nov 09	Dec 09	Jan 10	Feb 10	Mar 10	Apr 10	May 10	Jun 10	TOTAL	PROJECTED	SAVINGS
Jul 09	**1,996**	1,273	1,130	1,329	1,195	1,312	1,153	1,112	1,271	1,345	1,685	1,540	16,344	23,955	7,611
Aug 09		**2,025**	1,186	1,289	1,131	1,203	1,219	1,147	1,228	1,348	1,153	1,230	14,160	22,272	8,112
Sep 09			**1,885**	1,333	1,188	1,368	1,155	1,169	1,301	1,318	1,189	1,328	13,234	18,852	5,618
Oct 09				**1,724**	1,319	1,516	1,306	1,568	1,416	1,253	1,146	1,175	12,424	15,518	3,094
Nov 09					**1,689**	1,002	581	524	585	1,342	915	664	7,301	13,511	6,209
Dec 09						**1,790**	1,085	1,047	1,248	1,113	1,277	1,207	8,768	12,533	3,765
Jan 10							**2,159**	1,834	2,083	1,869	1,843	1,865	11,653	12,957	1,304
Feb 10								**1,717**	1,538	1,312	1,393	1,417	7,375	8,583	1,207
Mar 10									**2,001**	1,796	1,725	1,603	7,126	8,006	880
Apr 10										**1,965**	1,677	1,673	5,316	5,896	581
May 10											**1,865**	1,587	3,452	3,730	278
Jun 10												**1,789**			