



ANNUAL REPORT

JULY 2006 to JUNE 2007



**The Utah Medicaid
Drug Regimen Review Center
421 Wakara Way, Suite 208
Salt Lake City, UT 84108
www.utahdrrc.org**

The University of Utah College of Pharmacy began operating the Drug Regimen Review Center (DRRC) in May 2002 to fulfill the terms of a contract with Utah Medicaid. The contract supports the Utah Medicaid prescription drug program and its drug utilization review department. The emphasis of the program is to improve drug use in Medicaid patients, to reduce the number of prescriptions and drug cost in high utilizers of the Medicaid drug program, and to educate prescribers for top utilizers of the Utah Medicaid prescription drug program.

Each month, the top drug utilizers are reviewed by a team of clinically trained pharmacists. These reviews result in recommendations that are made to prescribers. These recommendations are described later in this report. Recommendations are transmitted in writing, are sent to all prescribers, 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

Karen Gunning, Pharm.D.
Mei Jen Ho, Pharm.D.
Joanne LaFleur, Pharm.D.
Bryan Larson, Pharm.D.
CarrieAnn McBeth, Pharm.D.
Janet Norman, R.Ph.
Gary M. Oderda, Pharm.D., M.P.H.
Lynda Oderda, Pharm.D.
Marianne Paul, Pharm.D.
Carin Steinvoot, Pharm.D.

Data Management

Lisa Angelos
Brian Oberg
David Servatius
Kami Doolittle
Yi Wen Yao

Mission

The mission of the DRRC is to review the drug therapy of Medicaid patients receiving more than seven prescriptions per month and to work with the individual prescribers to provide the safest and highest quality pharmacotherapy at the lowest cost possible.

Methodology

DRRC program methodology continues with no change from previous reports.

We continue to build a cross-reference table of prescriber identification numbers, prescriber license numbers and DEA numbers that now contains 52,857 listings covering all known license addresses.

We continue to send letters to prescribers with recommendations for changes in drug therapy as appropriate. To date, we have mailed 33,841 of these letters to 7,317 different prescribers with recommendations concerning 9,292 Medicaid patients.

Overview

Utah Medicaid drug claim costs had increased substantially over the past several years. 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 and have been fluctuating but fairly level since that time. Recently, the total number of claims decreased slightly from 170,010 to 165,525 per month (2.5%) during the period from July 2006 to June 2007, while drug costs increased slightly from \$10,973,133 to \$11,036,414 per month (1.3%) 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 2006 to June 2007, and Figure 3 shows the trend in total drug claim costs during the entire project period from January 2002 to June 2007.

Figure 1 – Total Medicaid Drug Claims by Month from July 2006 to June 2007

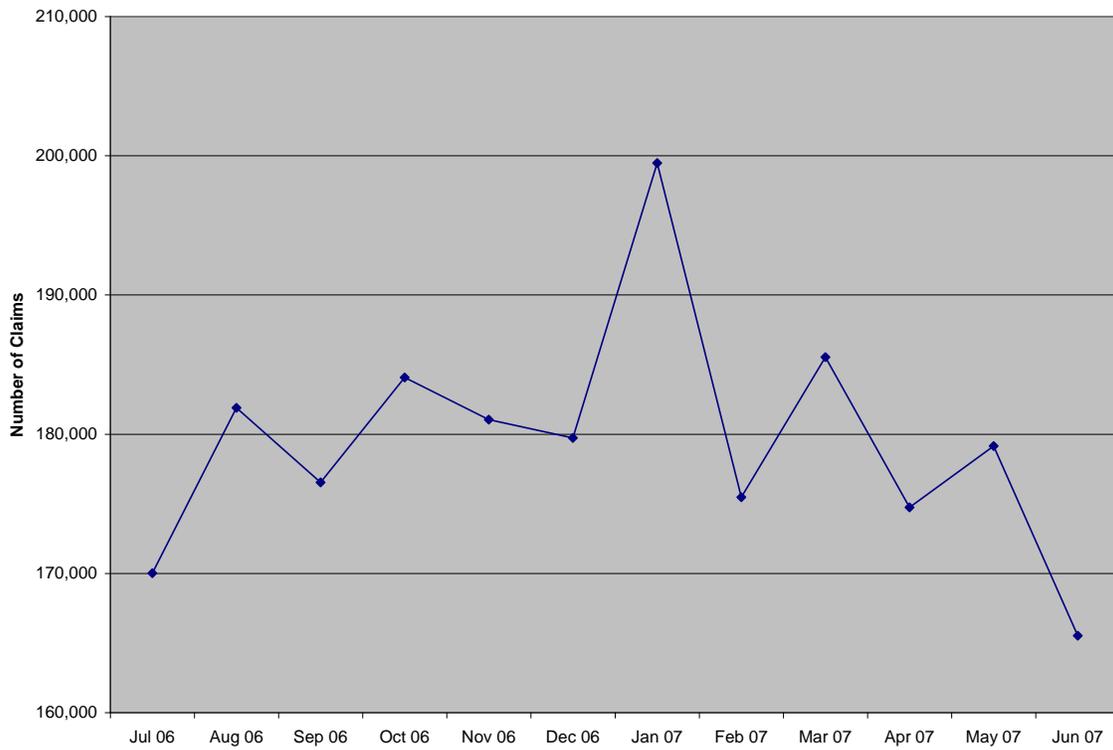


Figure 2 – Total Medicaid Drug Claim Costs by Month from July 2006 to June 2007

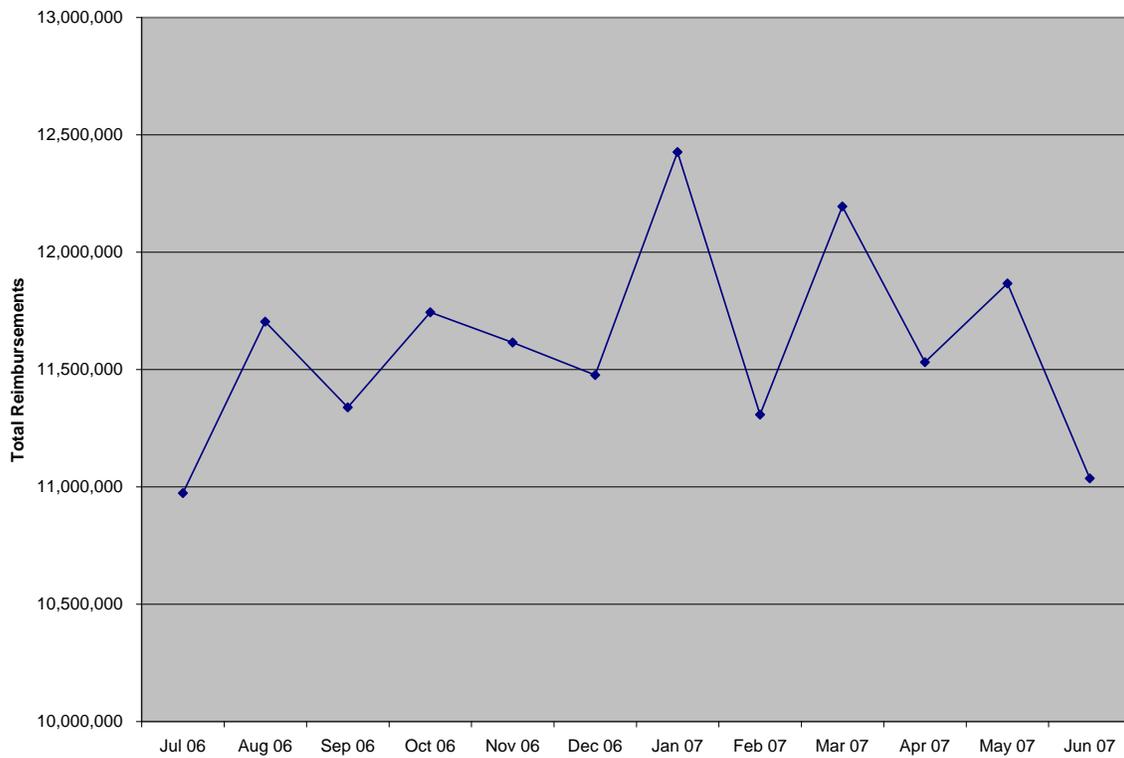
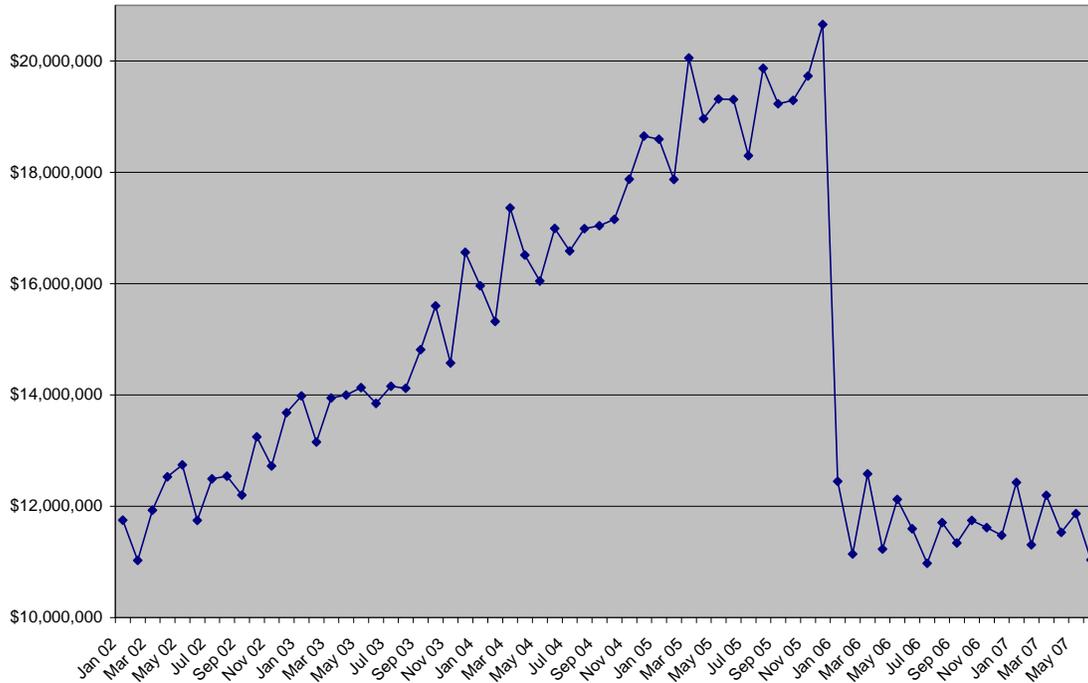


Figure 3 – Total Medicaid Drug Program Costs from January 2002 to June 2007

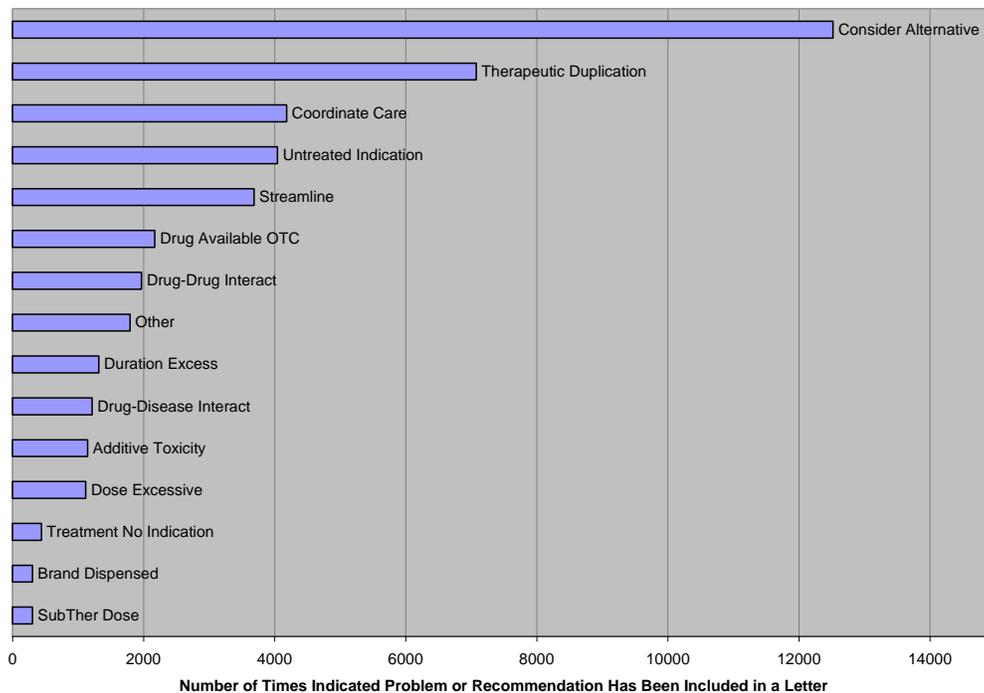


Additional figures for each fiscal year from 2001 to present are included in **Appendix A**. Increases for the previous three fiscal years were 16.4% (July 2004 to June 2005), 13.1% (July 2005 to January 2006 – when Medicare Part D went into effect), and recently only 1.3% (July 2006 to June 2007).

Program Summary

Figure 4 summarizes the drug related problems identified in the letters that have been sent to prescribers.

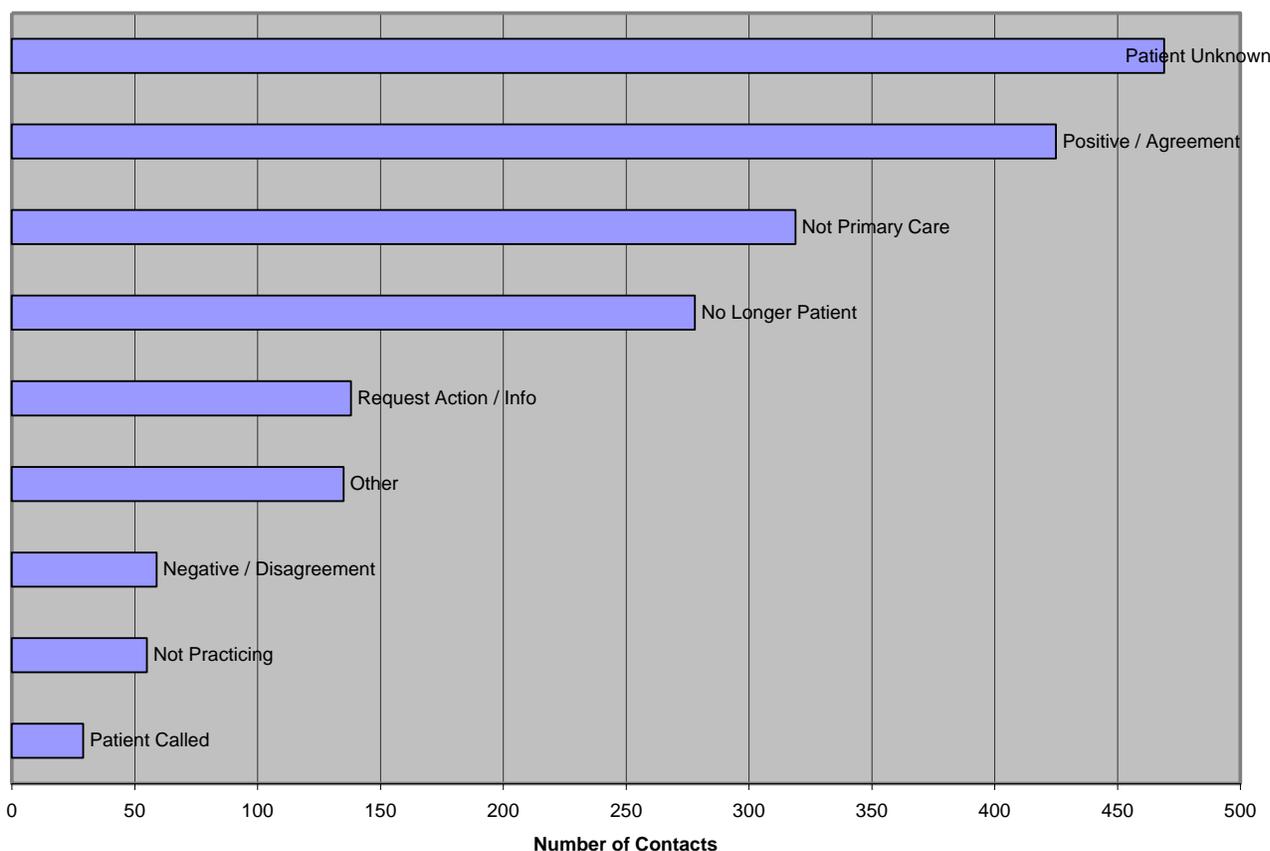
Figure 4 – Type of Drug Related Problems and Recommendations in Letters Sent to Prescribers



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. Coordinate care relates to situations where it appeared that multiple prescribers were ordering therapy for what appeared to be the same illness, 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. Streamline therapy refers to considering changes in therapy to eliminate some of the drugs dispensed.

Figure 5 summarizes the responses of the 1,907 individuals who contacted the DRRC after receipt of a letter.

Figure 5 – Types of Prescriber Responses to Letters Received



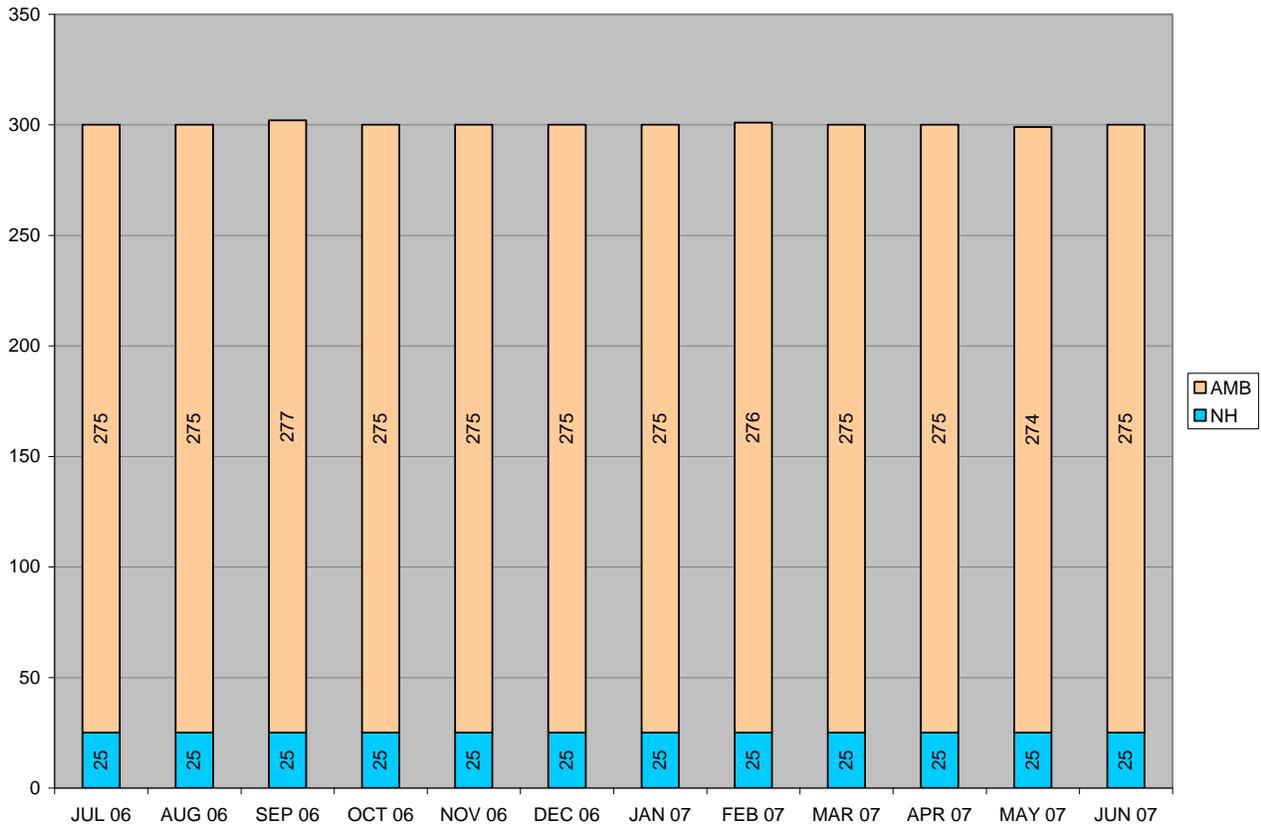
We have received a variety of comments from the prescribers, including both agreement with recommendations and some disagreement. We have also encountered some administrative problems such as pharmacy input error, incorrect addresses on file, and patients not being treated by the prescriber identified. 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.

Demographics

The 3,602 patients reviewed from July 2006 to June 2007 were separated into cohorts based on the month they were reviewed.

Figure 6 summarizes the number of patients reviewed each month during this period, with the numbers of nursing home and ambulatory patients separated. The average was 300 patients per month and 25 of the reviewed patients each month were nursing home patients.

Figure 6 – Summary of Nursing Home (NH) and Ambulatory (AMB) Patients Reviewed Each Month from July 2006 to June 2007



Demographics for these cohorts are displayed in Table 1 and include gender, average age, and the average number of prescriptions dispensed. Nursing home patients are not included in this table.

Table 1 – Cohort Demographics

MONTH	Patients							
	Females				Males			
	Percent	Mean Age	Mean # Rx	Mean Cost Per RX	Percent	Mean Age	Mean # Rx	Mean Cost Per RX
Jul 06	76.8	44.5	12.5	\$68.59	23.2	46.4	12.9	\$86.56
Aug 06	80.0	43.2	13.7	\$63.71	20.0	49.6	14.7	\$85.04
Sep 06	74.7	44.3	12.5	\$68.54	25.3	44.8	12.6	\$83.48
Oct 06	82.2	43.3	13.6	\$63.14	17.8	43.9	13.1	\$107.68
Nov 06	69.5	41.4	11.6	\$61.37	30.5	41.8	11.8	\$83.95
Dec 06	80.4	44.4	11.8	\$71.53	19.6	45.8	11.5	\$79.04
Jan 07	74.9	44.7	13.1	\$66.08	25.1	44.4	13.4	\$78.54
Feb 07	75.7	46.1	12.1	\$69.95	24.3	43.5	11.7	\$92.48
Mar 07	76.4	42.3	11.5	\$70.74	23.6	46.7	11.4	\$75.94
Apr 07	73.5	43.0	12.3	\$70.82	26.5	44.2	12.8	\$85.15
May 07	77.3	45.6	13.3	\$73.80	22.7	45.9	13.0	\$80.25
Jun 07	78.1	44.7	11.8	\$70.07	21.9	46.6	12.1	\$89.95

Reviewed ambulatory patients during the reporting period were predominantly females in their 40s who filled on average between eleven and fourteen prescriptions per month.

Program Trends

The following figures show the number of patients exceeding seven prescriptions per month, and the average and range of the number of prescriptions for the reviewed cohorts. Slightly more than 3,000 patients each month exceeded seven prescriptions. The mean number of prescriptions that triggered review generally ranged from 12 to 14 while the maximum number of prescriptions for a reviewed patient exceeded 30.

Figure 7 – Total Number of Ambulatory Medicaid Patients Exceeding Seven Prescriptions per Month between July 2006 and June 2007

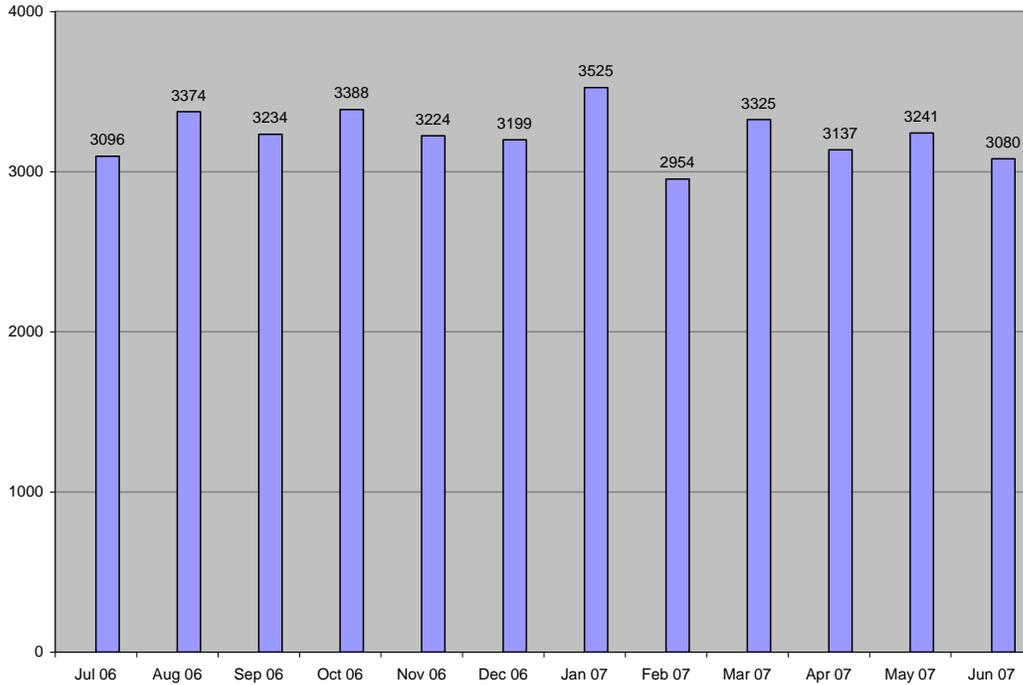
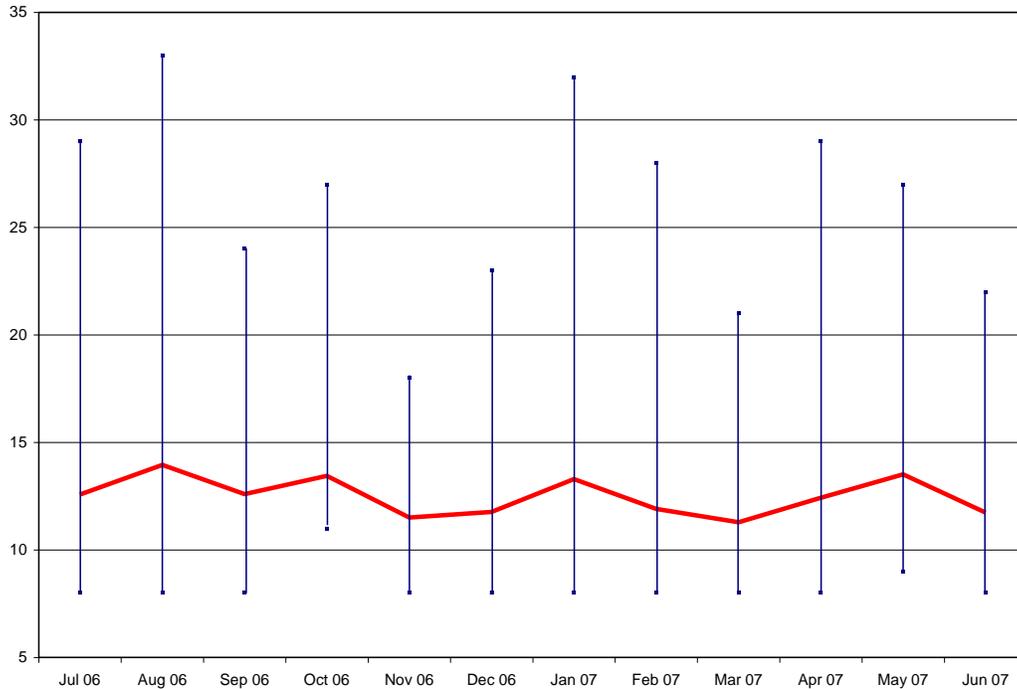


Figure 8 – Average Number of Prescriptions per Month per Reviewed Ambulatory Medicaid Patient, including Minimum and Maximum Number of Prescriptions per Review Group



Program Effectiveness

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 cost. 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 three patient presentations describe representative examples of the types of patients being reviewed, and the outcome of those reviews:

PATIENT 1

The medication regimen of a 26-year-old female was reviewed for the month of October 2006. During the month of review, the patient filled prescriptions for twenty different medications from fifteen different doctors. Included in the patient's prescriptions for the month were five different courses of antibiotics filled at five different pharmacies. There were also multiple prescription fills for opiate analgesics from eight different doctors. As such a prescription profile is often an indication of attempts to acquire excessive amounts of opiate medications, this patient was referred to the Medicaid restriction program so that she could be assigned to one primary-care provider to closely monitor her medication regimen. The patient also received a prescription for ibuprofen, an NSAID, despite having a diagnosis and receiving ongoing treatment for inflammatory bowel disease (IBD). NSAID therapy is not generally recommended during flare-ups of IBD, as it may increase the risk of gastrointestinal bleeding. This potential was described in the letter, since the NSAID was prescribed by a different doctor than the patient's IBD therapy. Finally, the patient's records showed that she had been receiving Aciphex, a proton-pump inhibitor (PPI). A recommendation was made to change her PPI therapy to Prilosec OTC, if appropriate, since Prilosec OTC is as effective but much less costly than Aciphex.

PATIENT 2

The medication regimen of a 50-year-old female was reviewed for the month of June 2007. She received fourteen different prescriptions during the month at a total cost of \$1,373. Several drug-related problems were identified and addressed in a letter to her doctor. This patient had been receiving two SSRI antidepressants, Lexapro and fluoxetine. It was recommended that she be stabilized on only one SSRI antidepressant. The Lexapro dose exceeded the maximum recommended daily dose so it was therefore recommended that the dose be decreased if she continued on Lexapro. Additionally, she had been receiving fluoxetine 80 mg daily dosed as two 40 mg capsules. 40 mg capsules are much more expensive per unit compared with 20 mg capsules. It was recommended that she be stabilized on 20 mg capsules if she continued on fluoxetine which would save approximately \$180 monthly. Significant drug interactions were also identified. She had been receiving both fluoxetine and amitriptyline at high doses. This combination may result in amitriptyline toxicity through inhibition of cytochrome p450 enzymes by fluoxetine. Fluoxetine has been found to increase serum amitriptyline levels 100% to 800%. It was recommended that this patient be evaluated for amitriptyline toxicity and that the dose of amitriptyline be lowered if necessary. She also had been receiving multiple medications that may prolong the QT interval (Geodon, fluoxetine, amitriptyline). It was advised that combining such medications may result in adverse cardiac effects. Finally, this patient had been receiving Nexium. A change was recommended to a less costly but equally effective alternative, Prilosec OTC. This change would result in cost savings of approximately \$100 monthly.

PATIENT 3

A 47-year-old female was reviewed in December 2006. At that time she received 26 medications from seven physicians at a cost of \$3,237.47 for the month. Nine issues were identified by the pharmacist and a letter was sent to the physicians. Among these issues were two therapeutic duplications of medications, four possible drug-drug interactions and two suggested therapeutic drug substitutions. In July 2007 this same patient's profile showed just sixteen drugs at a monthly cost of \$1,153.73 from four doctors. More importantly, the drugs responsible for most of the drug-drug interactions had been discontinued, decreasing the overall risk to this patient of having an adverse drug reaction. Of the initial nine issues originally identified, five have been addressed and resolved.

90-Day Tracking of Top Ten Reviewed Utilizers per Month

We have also tracked the top ten reviewed utilizers of the Medicaid prescription drug benefit for 90 days following the mailing of the recommendation letters to prescribers. We compared each patient's total drug fills, total costs and total drug related problems identified in the letters at the time of review and then again after 90 days. In all instances so far we have seen substantial to dramatic decreases in all three categories.

Table 2 – 90 Day Tracking of Top Ten Reviewed Utilizers per Month

	Drug Fills			Costs			Drug Related Problems			Demographics		
	Initial	Track	Change	Initial	Track	Change	Initial	Track	Change	M	F	Mean Age
Jan-06	20.6	17.3	-16.0%	1506.04	1329.99	-12.5%	41	26	-36.0%	29%	71%	37.4
Feb-06	19.6	8.3	-57.0%	1095.09	453.24	-58.0%	34	11	-68.0%	29%	71%	51.4
Mar-06	23.1	19.1	-17.0%	1488.21	1282.35	-14.0%	57	30	-47.0%	14%	86%	50.1
Apr-06	22.9	22.8	-0.5%	1882.38	1752.38	-7.0%	42	28	-33.3%	11%	89%	46.9
May-06	22.0	14.1	-35.9%	1840.66	1236.66	-32.8%	41	21	-48.8%	0%	100%	51.8
Jun-06	23.0	15.9	-30.9%	1313.76	1154.24	-12.1%	55	30	-45.5%	44%	56%	46.4
Jul-06	21.1	16.0	-24.2%	1376.50	1291.93	-6.1%	44	27	-38.6%	44%	56%	40.9
Aug-06	28.0	27.3	-2.6%	2177.51	1995.31	-8.4%	64	43	-33.1%	25%	75%	53.3
Sep-06	21.3	12.3	-42.3%	1365.90	888.60	-34.9%	61	22	-63.9%	20%	80%	47.2
Oct-06	20.8	17.0	-18.3%	1513.95	1335.69	-11.8%	63	34	-46.0%	0%	100%	50.5
Nov-06	16.8	10.3	-38.7%	1885.96	1426.36	-24.4%	20	12	-40.0%	33%	67%	41.7
Dec-06	20.2	11.4	-43.6%	1424.56	864.27	-39.3%	64	24	-62.5%	20%	80%	49.1
2006	21.7	15.9	-26.7%	1554.39	1246.94	-19.8%	592	314	-47.0%			

Figure 9 – Summary of Results: 90-Day Tracking of Top Ten Reviewed Utilizers per Month

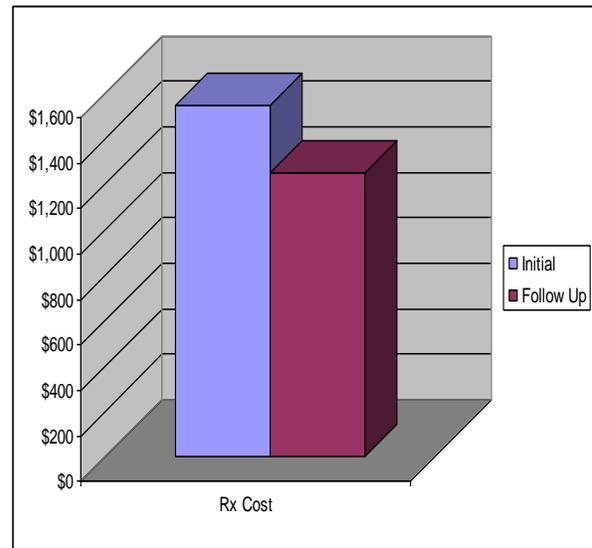
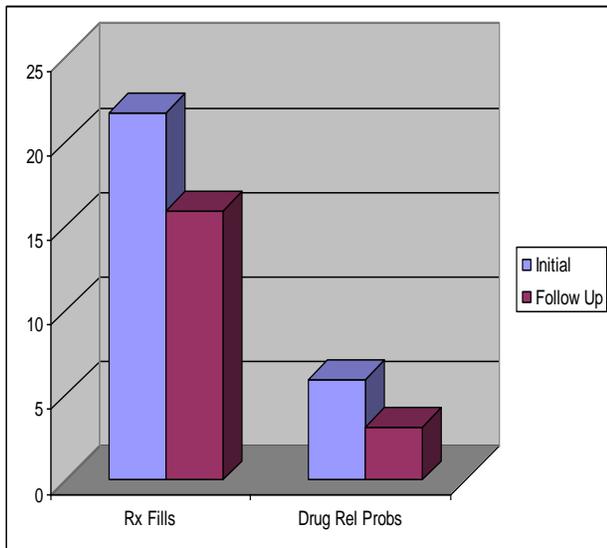
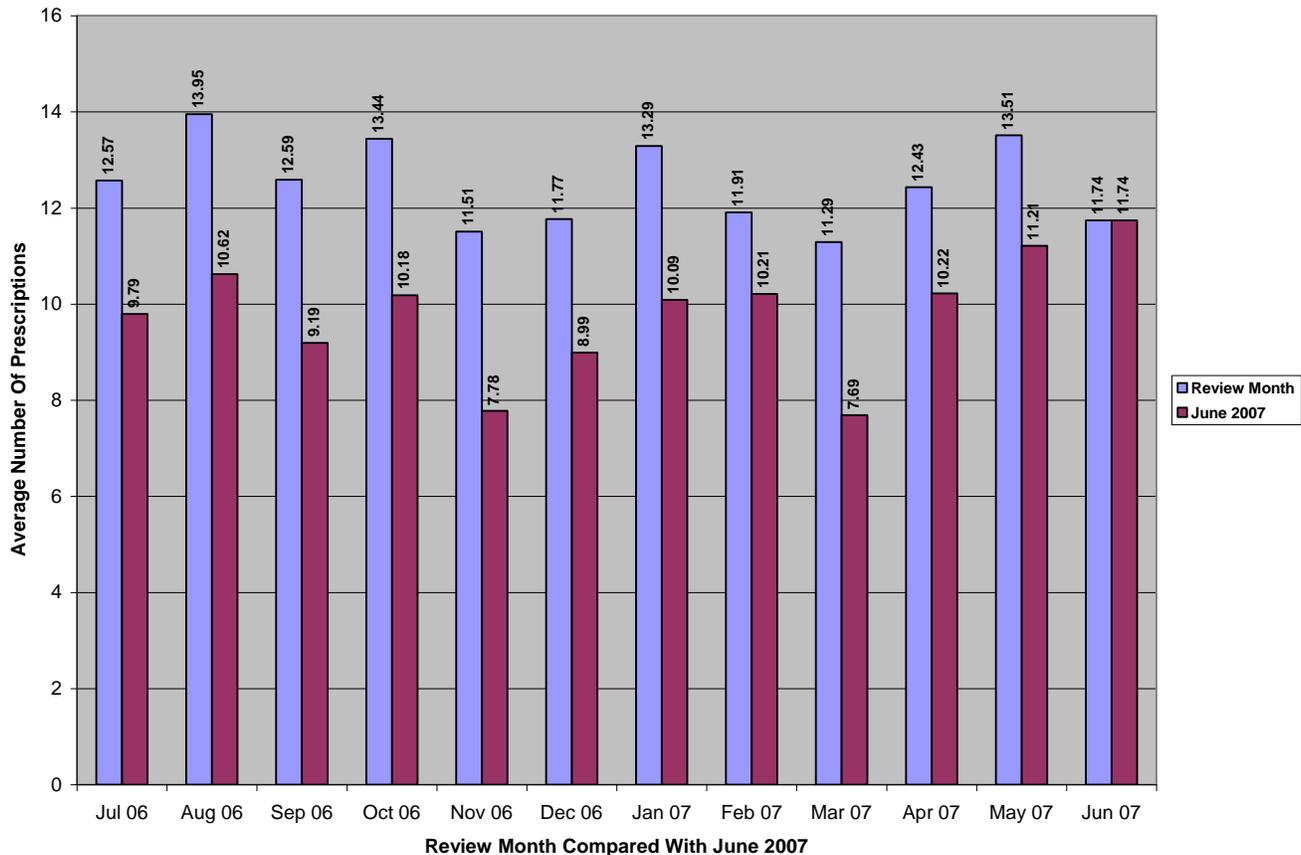


Figure 10 shows the average number of prescriptions per reviewed patient for each month from July 2006 to June 2007, compared to the average number of prescriptions per patient for the same cohort in June 2007. The average number of prescriptions per reviewed patient has decreased over the course of the year from 12.57 to 11.74 prescriptions per month. The number of prescriptions dispensed has decreased for all review cohorts. No change was seen for June 2007 since this report only covers data through June 2007.

Figure 10 – Average Prescriptions for Reviewed Cohort in Review Month and Compared to June 2007



We have tracked drug cost reimbursements to review cohorts for the remainder of the reporting year 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 12 months in the reporting period. Decreases in drug costs for these selected patients were substantial.

The review month was used as the baseline amount for comparison. Costs were compared for the baseline amount with the amount for June 2007. For example, costs in June 2007 and October 2006 were compared for patients reviewed during October 2006. Cost savings were calculated only for patients reviewed from July 2006 to June 2007. Additional cost savings for patients reviewed before July 2006 are not included, nor are additional savings that would be expected after June 2007 for patients included in this report. We have assumed that drug costs would remain constant since the month of review. Given this assumption costs decreased by \$2,441,672.

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 but will be done as part of a Medicaid transformation grant project currently underway.

Cost calculations are detailed on the following page in Table 3.

Table 3 – Costs

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

	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	TOTAL	PROJECTED	SAVINGS
Jul 06	224,255	194,741	179,693	183,709	174,356	162,850	189,536	150,686	187,246	170,351	183,038	176,581	2,177,043	2,691,059	514,016
Aug 06		211,002	178,880	183,179	160,241	175,829	182,157	165,464	182,166	171,166	171,902	182,532	1,964,517	2,321,018	356,501
Sep 06			192,555	173,204	153,797	151,086	159,598	156,506	159,464	161,860	169,745	161,491	1,639,306	1,925,545	286,240
Oct 06				236,180	185,383	191,260	198,638	188,706	183,797	192,994	191,482	194,512	1,762,951	2,125,619	362,668
Nov 06					164,765	130,711	139,602	128,984	130,675	122,252	129,318	126,612	1,072,920	1,318,121	245,201
Dec 06						184,055	165,361	148,805	149,973	149,519	147,165	147,165	1,092,042	1,288,382	196,340
Jan 07							203,977	159,794	173,600	173,471	160,614	170,942	1,042,398	1,223,865	181,467
Feb 07								215,205	201,655	185,670	183,066	185,209	970,805	1,076,026	105,221
Mar 07									168,686	131,294	141,333	133,032	574,346	674,743	100,398
Apr 07										227,374	209,606	201,332	638,313	682,122	43,810
May 07											233,015	183,205	416,220	466,030	49,810
Jun 07												227,519			
													13,350,858	15,792,530	2,441,672

PATIENTS	203	197	216	214	187	192	197	220	191	202	198	231
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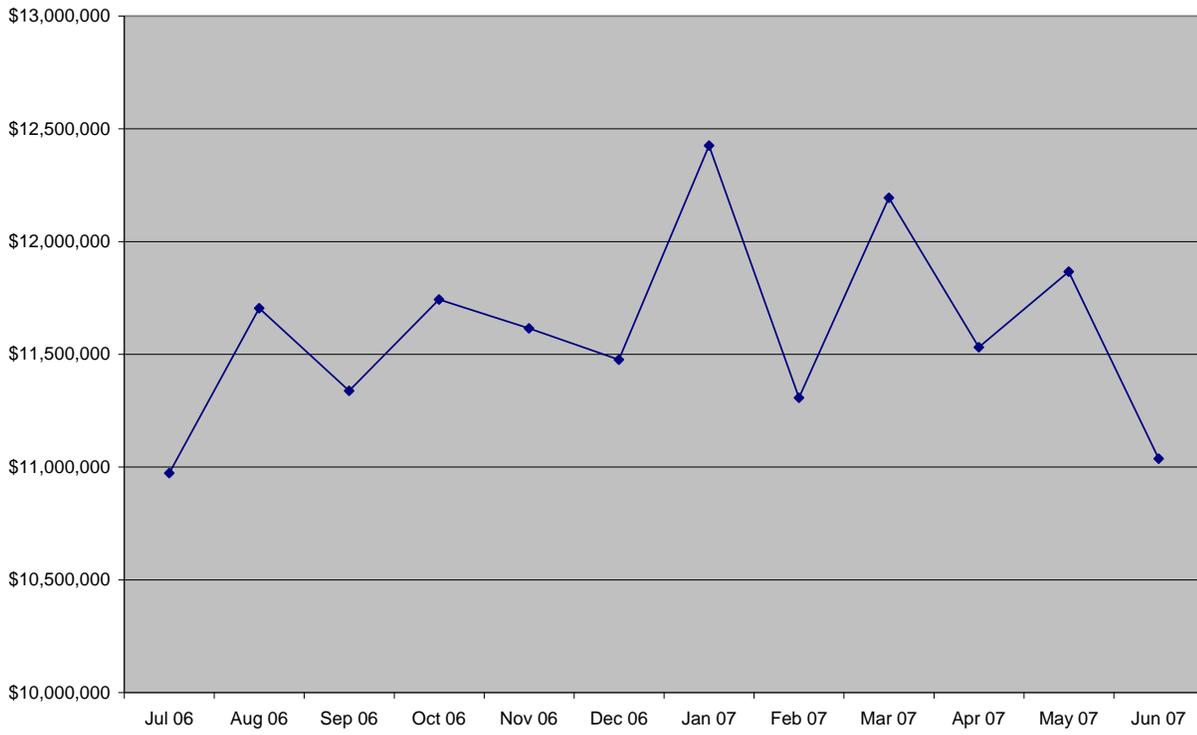
*Total number from each monthly review cohort remaining eligible for AND utilizing prescription drug benefits during the entire 12 month reporting period.

AVERAGE PER PATIENT

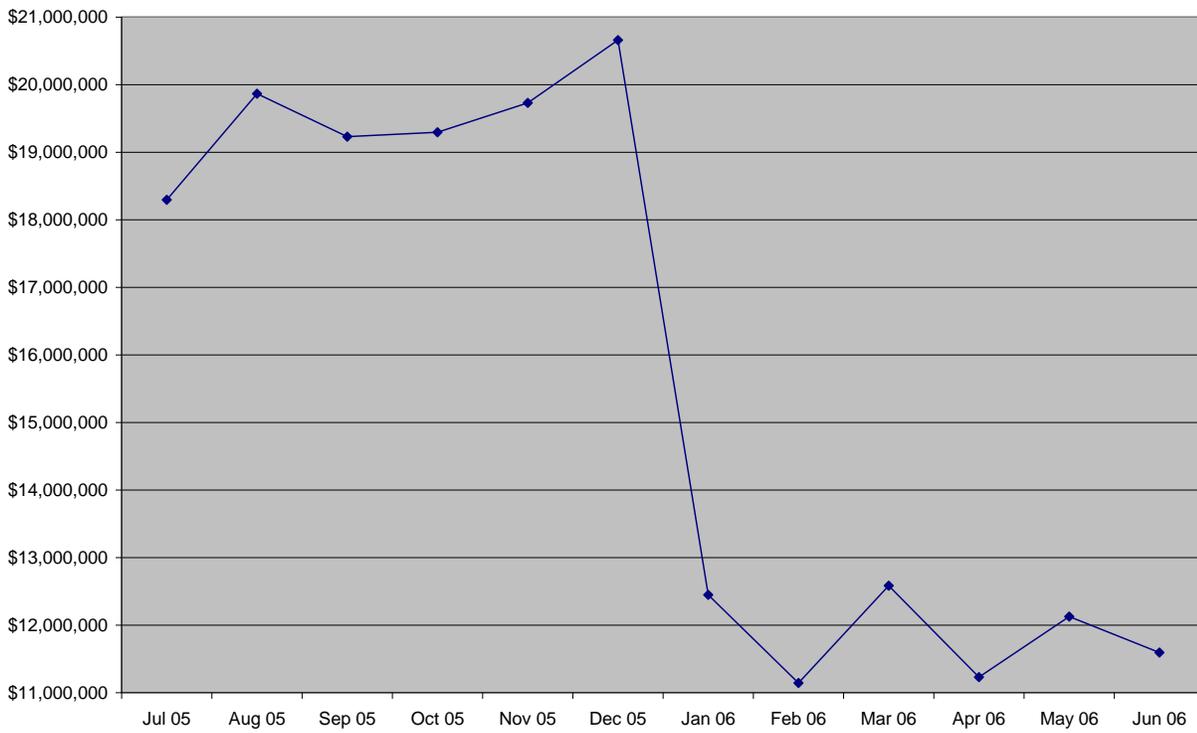
	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	TOTAL	PROJECTED	SAVINGS
Jul 06	1,105	959	885	905	859	802	934	742	922	839	902	870	10,724	13,256	2,532
Aug 06		1,071	908	930	813	893	925	840	925	869	873	927	9,972	11,782	1,810
Sep 06			891	802	712	699	739	725	738	749	786	748	7,589	8,915	1,325
Oct 06				1,104	866	894	928	882	859	902	895	909	8,238	9,933	1,695
Nov 06					881	699	747	690	699	654	692	677	5,738	7,049	1,311
Dec 06						959	861	775	781	779	766	766	5,688	6,710	1,023
Jan 07							1,035	811	881	881	815	868	5,291	6,213	921
Feb 07								978	917	844	832	842	4,413	4,891	478
Mar 07									883	687	740	697	3,007	3,533	526
Apr 07										1,126	1,038	997	3,160	3,377	217
May 07											1,177	925	2,102	2,354	252
Jun 07												985			
													65,922	78,011	12,089

APPENDIX A

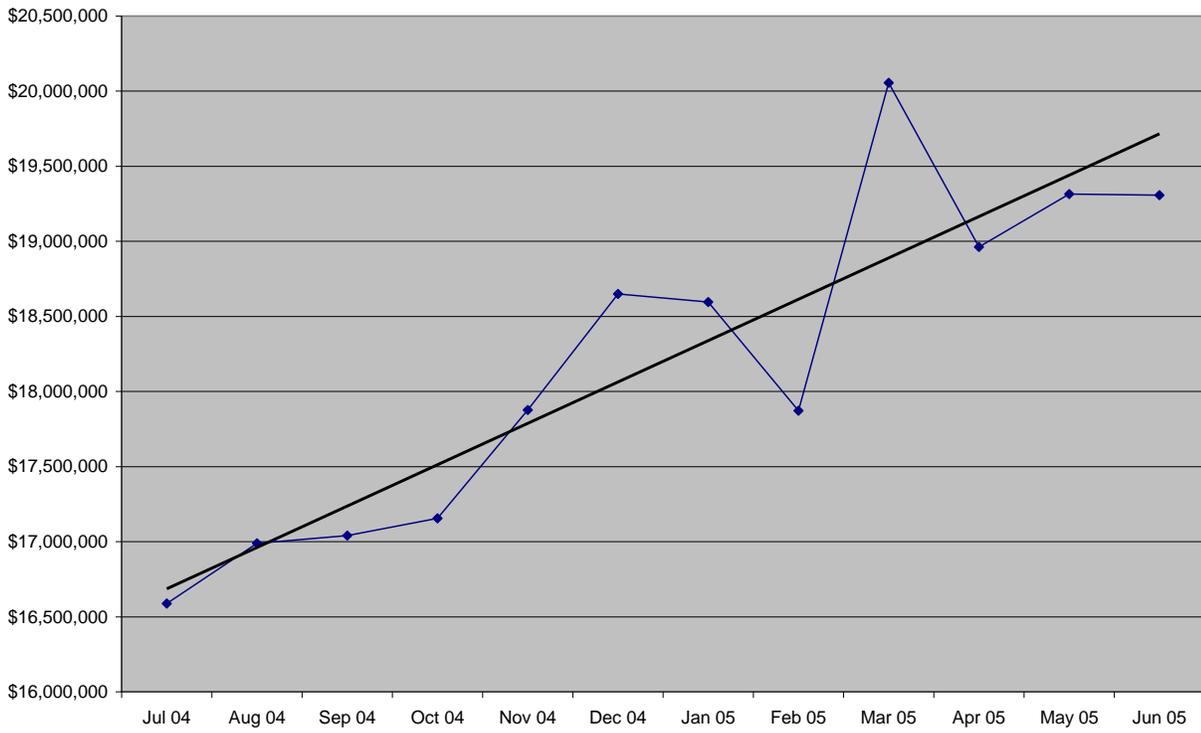
JULY 06 to JUNE 07



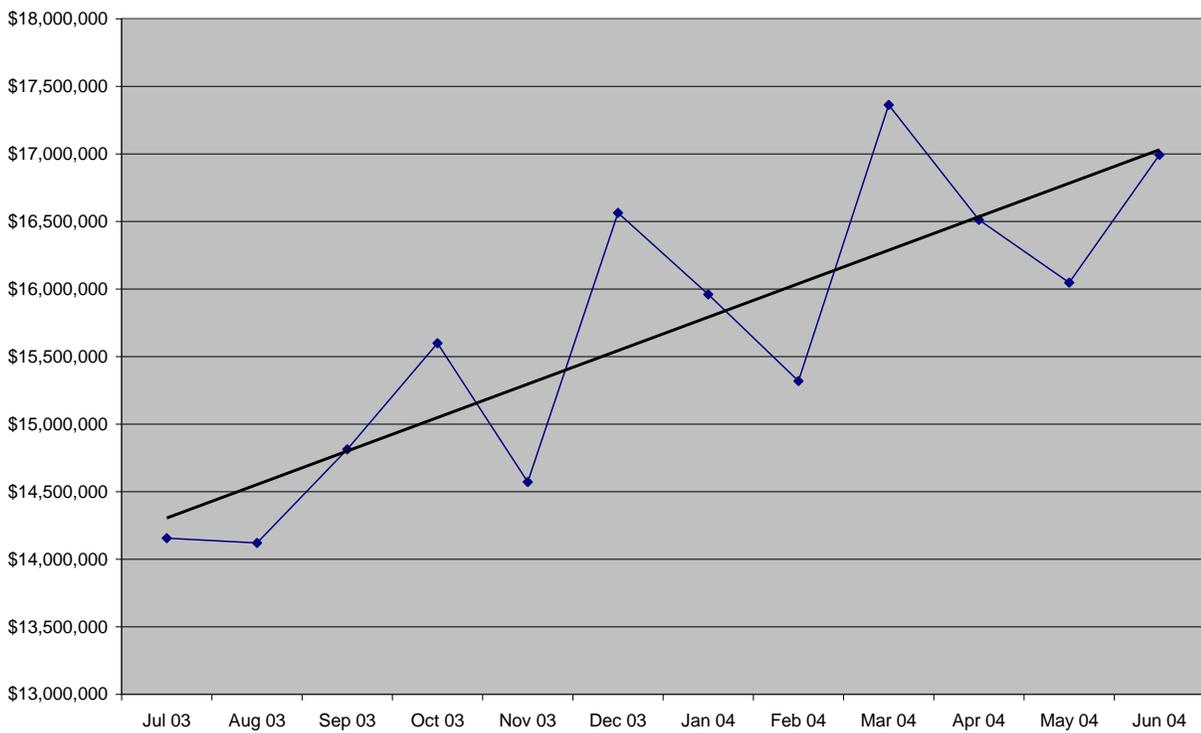
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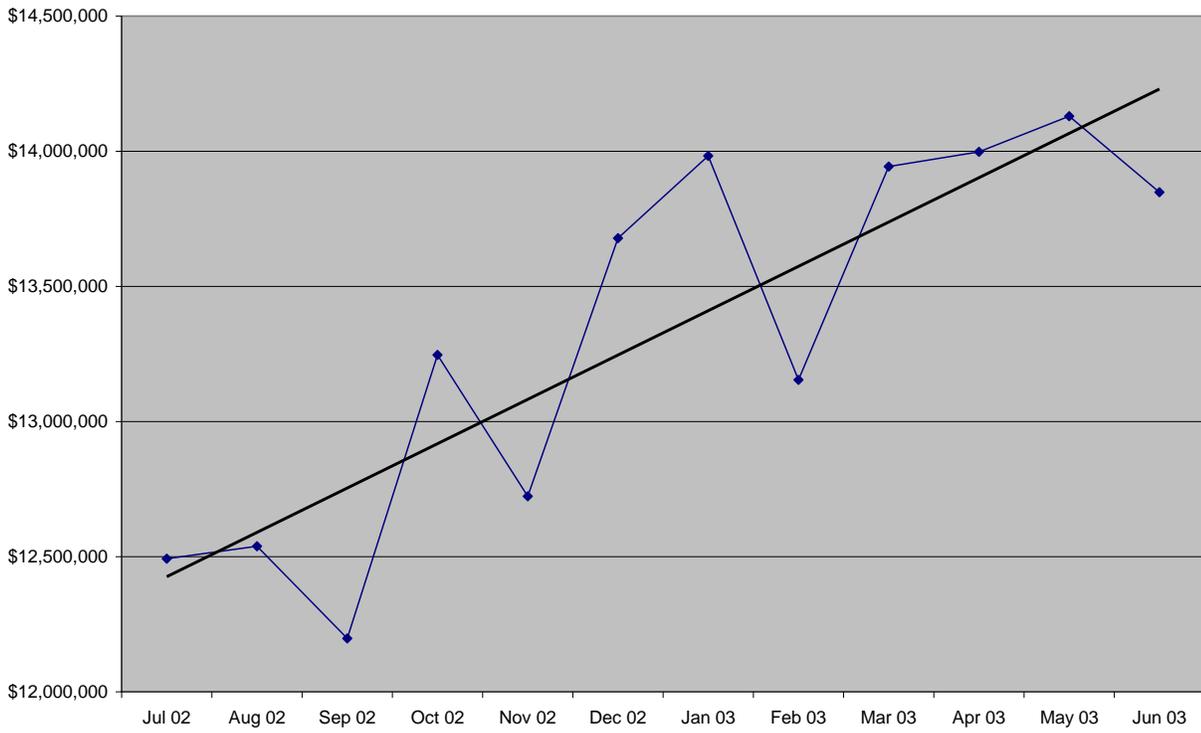
JULY 04 to JUNE 05



JULY 03 to JUNE 04



JULY 02 to JUNE 03



JULY 01 to JUNE 02

