

**A Report to the Citizens
of Salt Lake County, the County Mayor
and the County Council**

May 2007

A Performance Audit of

**The Salt Lake County
Adult Detention Center
Pharmaceutical
Operation**

Jeff Hatch

Salt Lake County Auditor

A Performance Audit
of
The Salt Lake County Adult Detention Center
Pharmaceutical Operation

May 2007

JEFF HATCH
Salt Lake County Auditor

JAMES B. WIGHTMAN, CPA
Director, Internal Audit

LARRY DECKER, CPA
Assistant Director, Internal Audit

Audit performed by:

Celestia Cragun, MBA, CFE
Charles E. Kulp, CIA
Jeff Wood, MBA, CFE

Table of Contents

I.	Executive Summary	1
II.	Introduction.....	11
III.	Scope and Objectives.....	16
IV.	Findings and Analysis.....	18
1.0	Per Unit Prices of Medications	18
1.1	The per-pill price among medications at the Jail followed national trends of continually increasing pharmaceutical prices	18
1.2	RECOMMENDATION	27
1.3	Medication prices at the Salt Lake County Jail compare favorably to prices at other jails nationwide.....	27
1.4	RECOMMENDATION	34
2.0	Overall Expenditures on Medications.....	34
2.1	Expenditures on Jail Medications increased 550% over the past 10 years.....	35
2.2	RECOMMENDATION	44
2.3	Psychotropic Medications accounted for over half of all medication costs.	44
2.4	RECOMMENDATIONS	51
2.5	A 36% increase in costs occurred in 2004 and was attributed to increased use of psychotropic medications for treatment of depression and mental illness.....	51
2.6	RECOMMENDATIONS	55
2.7	Coupons valued at over \$90,000 were received by the Jail Health Authority but only \$7,640 could be redeemed	55
2.8	RECOMMENDATION	56
2.9	Invoices were paid at face value without price verification	56
2.10	RECOMMENDATIONS.....	58
3.0	Refunds for Unused Medications	58
3.1	Medications received at the Jail had expiration dates which allowed returns for credit.....	58
3.2	RECOMMENDATION	60
3.3	The County does not receive credit for some returned medications due to the return processing fee.....	60
4.0	Inventories of Medications	63
4.1	All drugs were dispensed solely to inmates booked, but within the Electronic Medical Record, entries in “date” fields were not in logical sequence.....	63
4.2	RECOMMENDATION	64
4.3	Medications received at the Jail and medications returned to the Contractor were not adequately inventoried.....	64

4.4	RECOMMENDATIONS.....	66
4.5	A theft of a controlled substance occurred, and inventory controls over these substances were inadequate.....	66
4.6	RECOMMENDATIONS.....	68
5.0	Reporting by and Satisfaction with the Contractor.....	68
5.1	The Contractor has provided an efficient way for dispensing medications and Jail staff, in general, has been pleased with their efforts	69
5.2	Pharmaceutical Contractor statistical reports sometimes contained inconsistent data, and few of these reports were maintained for future reference and analysis.....	70
5.3	RECOMMENDATIONS.....	73
APPENDIX A	Jail Meds Price Comparison	
APPENDIX B	High Price Drugs – Percent Increase/Decrease 2004 to 2006	
APPENDIX C	Mid-Price Drugs – Percent Increase/Decrease 2004 to 2006	
APPENDIX D	Medications with a Per-Dose Price less than \$1.00	
APPENDIX E	National Survey Results on 20 Medications	
APPENDIX F	Jail In-Custody Pharmaceutical Expenditures	
APPENDIX G	Medications Costs – 2004-2005 Side-by-Side Comparisons	
APPENDIX H	Top 100 Medications Sorted by Price-per-Dose 2004 and 2005	
APPENDIX I	Top 100 Medications by Total Spent 2004 and 2005	
APPENDIX J	Top 100 Medications by Quantity Dispensed 2004 and 2005	
APPENDIX K	Psychotropic Medication Expenditures Compared to Total Expenditures December 2000 – May 2006	
APPENDIX L	Coupons Given to Administration 2005-2006	
APPENDIX M	Month-to-Month Expenditures Showing Amount Credited to the Jail	
APPENDIX N	Formulary Management Reported Costs Compared to Invoices, Number of Prescriptions Ordered, Number of Inmates on Psyche Meds December 2000 – May 2006	
APPENDIX O	Glossary of Terms	
APPENDIX P	Response from Division Administrator, Health Services Administration, and Salt Lake County Sheriff	

A Performance Audit of The Salt Lake County Adult Detention Center Pharmaceutical Operation

I. Executive Summary

Background

The Audit Division recently completed a performance audit of the Salt Lake County Adult Detention Center (Jail) Pharmaceutical Operation. The Jail currently in use opened in 2000 and housed approximately 2,000 prisoners at the time this report was produced. The “Jail Services Division” is responsible for ensuring that all prisoners receive medical and mental health care.

The Jail does not have an on-site pharmacy but operates under a “mail-order” model through a pharmacy in Pennsylvania that has been under contract with the Jail since 1998. The most recent contract was signed in 2005 following a bid process where several other prospective vendors submitted proposals. The current Pharmaceutical Contractor is the largest provider of pharmacy services to correctional institutions in the United States.

Under the mail-order model, the Jail faxes its requests for prescriptions to the Pharmaceutical Contractor which then sends medications to the Jail in a UPS shipment. Orders the Pharmaceutical Contractor receives by 1:00 p.m. will be received at the Jail the next day.

The Pharmaceutical Contractor packages most of its medications in blister packs, a card with several plastic bubbles on it, each bubble containing an individual pill. The pill is released from its packaging by depressing the bubble and breaking the underlying foil and paper lining. Each blister pack card is imprinted with the name of the inmate to whom the medication is prescribed. The Jail also maintains common “stock” medications that have no specific inmate name on them. When 24-hour delivery from the Pharmaceutical Contractor is not timely enough, the Jail can fill prescriptions at local pharmacies.

State Statute designates the Sheriff as the chief jailer of the County. The Corrections Bureau Chief Deputy is the chief administrator, followed by a Captain over the “Jail Services Division” who oversees Health Services. A non-officer “Health Authority,” who is a registered nurse, manages practical day-to-day health service operations and oversees a staff of three Pharmacy Technicians (Pharmacy Techs) who receive medications, load them onto carts

The Jail does not have its own pharmacy but operates under a “mail-order” system through a pharmacy contractor in Pennsylvania

Most medications come in “blister pack” cards imprinted with the name of the inmate to whom they are prescribed.

All inmates are entered into the electronic medical record (EMR).

In most cases, inmates can keep a supply of their medications in their cells. This is called “keep-on-person” or KOP.

for dispensing to inmates, administer designated medications to inmates, along with the nursing staff, and generally keep the pharmacy room in good order. No pharmacists are on staff. Nurses, medical transcriptionists, and medical record clerks are also included in the Health Services team.

A separate, locally-based, Medical Contractor provides physicians, including specialists, to the Jail. Also, mental health services are contracted with a company based in Vienna, Virginia which hires the staff of psychiatrists, psychologists and social workers and directs mental health care. Physicians and mental health workers are not Salt Lake County employees.

Physicians, nurse practitioners, and physicians’ assistants are authorized to write prescriptions. Registered nurses also issue prescriptions, but only by order of a physician. Physicians or nurses enter prescriptions into the Electronic Medical Record (EMR), an on-line system acquired in 2000 for tracking inmate health status and care. All inmates have a record within the EMR. Each day, a pharmacy technician prints off a list of new prescriptions from the EMR and faxes them to the Contractor.

Pharmacy techs unpack and inventory daily shipments of medications. Each shipment arrives with a packing slip on computer disk which the tech loads onto the computer, and compares to actual good received by scanning each item in the shipment with a bar-code scanner. Any discrepancies are reported to the Contractor.

Medications dispensed to inmates are tracked on a Medical Administration Record, or MAR, a card that is slightly bigger than an 8 ½” x 11” page. A nurse attaches a peel-off label from the medication blister pack to the MAR card and notes on the card when the medication was given to the inmate and the period of time for which it is to be administered.

Medications are dispensed as either “direct-observe” therapy or “keep-on-person,” KOP. Most medications are KOP, meaning inmates keep them in their cells and take the pills at their own discretion, and presumably as prescribed. Medications must be in a blister pack format to be KOP. If medications are dispensed as direct-observe therapy, a nurse watches the inmate take his or her medication. Medications are dispensed twice a day, once in the morning and again in the afternoon.

The process for determining if medications will be prescribed to an inmate begins at booking. After inmates are booked into Jail, they receive a medical screening that includes assessment of current prescription medication usage. Jail staff confiscates any medications on the inmate’s person at the time of booking. The Jail verifies any prescriptions that the inmate says he or she is taking by contacting pharmacies, physicians or other jails. The medical evaluation may produce a new prescription for the same medication, an alternative medication, or it may result in changes to existing therapies. All medications are dispensed on site at the Jail. Prior to being released from Jail, inmates must discard into a bin all unused medications.

Spending on pharmaceuticals in 2005 accounted for 2% of overall Jail spending.

The current contract with the Pharmaceutical Contractor specifies that medications will be charged at “actual acquisition cost” plus a \$3.40 dispensing fee per prescription. The Pharmaceutical Contractor will refund the cost of medications returned to them if the expiration date is longer than 90 days from when the medication was returned to them and if the pills remain in their blister packs. Each return is assessed a \$1.95 processing fee; therefore prescriptions of a value equal to or less than this amount would not receive credit upon return. Inmates are assessed a \$3 co-pay per prescription that is waived if the inmate cannot afford the payment or if the medication is for a chronic illness, such as diabetes.

The Jail spent \$957,335 on medications in 2005. Prescriptions ordered totaled 49,041. A total of 21,166 non-duplicate inmates were booked into jail in 2005, for a pharmaceutical cost per inmate of \$45. Overall Jail expenditures in 2005 were \$54,292,976. Therefore, pharmaceutical costs were about two percent of this total.

Findings and Analysis

The principle findings of the audit are:

- ***The per-pill price among medications at the Jail followed national trends of continually increasing pharmaceutical prices.***
- ***Medication prices at the Salt Lake County Jail compare favorably to prices at other jails nationwide.***
- ***Expenditures on Jail medications increased 550% over the past 10 years.***
- ***A 36% increase in costs occurred in 2004 and was attributed to increased use of psychotropic medications for treatment of depression and mental illness.***
- ***Invoices were paid at face value without any price verification.***
- ***Medications received were not verified against medications ordered, and items returned to the Pharmaceutical Contractor were not tracked and compared to refunded amounts.***
- ***A theft of a controlled substance occurred, and inventory controls over these substances were inadequate.***

The per-pill price among medications at the Jail largely followed national trends of continually increasing pharmaceutical prices.

Pharmaceutical expenditures were \$146,374 in 1996 compared to \$957,355 in 2005, an increase of 550 percent over this 10-year period. While inflationary

Medication prices increased at the Jail, though some prices decreased because of patent expirations.

pressures contributed to this increase, other contributing factors were primarily responsible. As noted in the Consumer Price Index (CPI) for Medical Care Commodities (MCC), price increases in prescription drugs and medical supplies; and non-prescription drugs and medical supplies, over this same period totaled 31.1 percent, an average of 3.06 percent per year. Likewise, the Producer Price Index (PPI) rose 49.1 percent, or an average of 4.58 percent per year. The PPI reflects prices at the wholesale level wherever the CPI indicates prices to the end consumer.

Other root causes that better explain increases in expenditures include the following:

- Changes in utilization
- Change in the types of drugs used

Medication utilization may change as Jail demographics evolve. For example, pregnant women and HIV-positive individuals that prior to 2004 could not be booked into Jail are now permitted entry as inmates. Their addition to the Jail population created additional responsibility for medical attention, including the prescribing of medications as needed.

Also, changes in the types of drugs used may occur depending on advances in technology. Newly-developed medications may be more effective, but also more costly. However, as patents on medications expire, prices-per-pill will actually decrease on generic brands. For example, we noted that a 100 milligram dose of patented Diflucan cost \$8.41 in December 2004, compared to its generic brand Fluconazole, which cost \$0.32 in March 2006.

Pricing under the prior vs. the current Pharmaceutical contract

The current pharmaceutical contract, that took effect November 15, 2005, requires medications to be charged to the Jail at “Actual Acquisition Cost” (AAC) plus \$3.40 per prescription, and for “stock” medications, such as Ibuprofen and Aspirin, at AAC plus 16 percent.

The prior contract mandated that medications be charged at “Average Wholesale Price” less 14 percent for brand name medications and “Average Wholesale Price” less 35 percent for all generic medications. Unlike the current contract which assesses a \$1.95 per prescription return fee, the prior contract did not require payment of any fee for medications returned to the Pharmaceutical Contractor.

We analyzed prices-per-pill by examining invoices for December of each year from 2001 through 2005, and also the invoice of March 2006. As part of this analysis, we wanted to compare prices established under the current contract to those under the prior contract, for any advantages the County may gain, or conversely, disadvantages to the County under the current compared to the prior contract. To do this, we compared the December 2004 invoice, generated under the prior contract period, to the March 2006 invoice, billed within the current contract period. Each invoice typically contains about 4,000 lines of data, many

of which list identical medications, though each line is differentiated by inmate name or shipment date or dosage. We found 187 discreet, yet identically comparable medications in these two months and divided them into three broad classes for comparability, based on their 2004 per-dose price:

“High-Price Drugs” – Per-dose price \$5.00 or >	22
“Mid-Price Drugs” – Per-dose price \$1.00 and <\$5.00	56
“Low-Price Drugs” – Per dose price <\$1.00	<u>109</u>
Total	<u>187</u>

In each of these categories, some medications increased in price while other decreased. Also, prices in some categories demonstrated classic economic “elasticity,” where an increase in demand followed a decrease in price, and vice-versa. “Inelasticity” occurred in other instances, where demand remained static or actually increased even as prices increased, and vice-versa..

When comparing changes in price on the March 2006 invoice over the December 2004 invoice, Mid-Price medications were elastic, and they produced a near 16 percent reduction in total monthly expenditures. High-Price drugs were inelastic and produced a 3.65 percent increase in monthly expenditures. Demand in this category increased even as prices increased, and demand decreased with decreasing prices. Many of the high-price antidepressant and antipsychotic medications are in this category. The frequent and clinically-proven effectiveness of these medications in treating mental illness may help explain this inelasticity.

Low-Price medications tended to be insensitive to price changes. Medications that decreased in price resulted in only a slight increased in demand, and medications that increased in price also showed a slight increase in demand. Cumulatively, the Low-Cost medications experienced a 22.48 percent decrease in total monthly expenditures.

We concluded that prices under new contract terms do not provide significant cost savings over the previous contract, nor do they result in significant increases in overall expenditures.

Medication prices at the Salt Lake County Jail compare favorably to prices at other jails nationwide. We surveyed jails in 20 major metropolitan areas throughout the country to compare their prices on medications to our own. To conduct this survey we submitted a list of 20 medications and asked respondents to provide the price they pay per pill on each medication. Most medications on our list were psychotropic drugs, or those used in the treatment of mental illnesses. Our list favored this category of drugs because of their extensive use and high price. The survey revealed that prices at the Jail were comparable, and in fact, lower in many cases.

Included on our list of medications were Amitriptyline 50 mg tab and Fluoxetine (generic Prozac) 10 mg tab, both of which the Mental Health Contractor, in its own survey, found to be particularly high-priced at our Jail compared to other jails. Our own survey confirmed the results for Fluoxetine

Survey results showed that the Salt Lake County Jail is being charged at rates comparable to other jails in the country

Various factors contributed to significantly higher pharmaceutical expenditures over the last 10 years.

10 mg only, though jails contacted were different from those of the Mental Health Contractor. In our survey, 16 of the 20 respondents reported prices for Fluoxetine lower than Salt Lake County's \$0.41 per pill, a price we derived from the October, 2005 invoice.

Though Fluoxetine 10 mg tab is not prescribed often, and therefore has minimal impact on overall expenditures, Jail administration should nevertheless be aware of potentially overpriced medications and the impact these could have on overall medication expenditures. Prices on all medications should be monitored, and prices that appear too high should be reported to and discussed with the Pharmaceutical Contractor.

Overall expenditures on Jail medications increased 550% over the past 10 years. Pharmaceutical costs remained under \$200,000 for most of the 1990s but showed significant increases later in the decade. The most significant increases occurred in the period from 1998 through 2000 where costs of \$190,308 in 1998 went to \$354,636 in 1999, and then rose to \$765,044 in 2000, an increase of 116 percent over 1999. The historical high for pharmaceutical expenditures occurred in 2004 at \$1,072,824, followed by a slight decrease in 2005 to \$957,335. The table below shows all yearly expenditures for the period 1998-2005.

Pharmaceutical Expenditure Trend
1998-2005

Year	Total Expended	Year-to-Year % Change
1998	\$ 190,308	
1999	\$ 354,636	86%
2000	\$ 765,636	116%
2001	\$ 679,415	-11%
2002	\$ 706,892	4%
2003	\$ 785,601	11%
2004	\$ 1,071,824	36%
2005	\$ 957,335	-11%

Data available to us from this period revealed several factors that may or may not influenced these increases, including:

- The contract with the current pharmaceutical provider in late 1998
- A determined effort among Jail administrators and contractor to improve health care delivery
- The introduction of new and more costly medications to the market
- The inmate population increase at the opening of the new Adult Detention Center in 2000

Third Party Provider Contracts

The Jail pharmacy was discontinued in the late 1990s in the midst of controversy over excessive time requirements in receiving and dispensing medications to inmates. The current Pharmaceutical Contractor took over

operations in late 1998 and was viewed by many Jail administrators as a more stable and reliable source for ordering and receiving medications. The Pharmaceutical Contractor introduced the mail-order model to the Jail, including the packaging of medications in blister packs. This improved efficiency in medication delivery resulted in more drugs being dispensed.

Determined Initiative to Improve Health Care

The current Pharmaceutical Contractor assumed operations at a time when Jail administrators were working to improve a substandard Jail health care system. The current Medical Contractor, engaged in 1997, together with a Health Care Consultant engaged in late 1999, pushed to implement a system that more adequately addressed inmate health care needs. In fact, the agreement with the consultant mandated that they bring the Jail's health care system in line with standards of the National Commission on Correctional Health Care (NCCCHC), a jail health care accreditation agency. This was accomplished, but not without associated increases in medication costs.

New, More Costly Medications

Moreover, the availability of new and costlier medications in the past decade contributed to increased expenditures. Most of these were psychotropic medications, including antidepressants and "atypical" antipsychotic medications that were more effective at reducing the symptoms of mental illnesses and, in addition, had fewer adverse side effects. Also, new antibiotics and the so-called "triple cocktail" for treating HIV infection came onto the market at about that time.

Psychotropic medications used for treating the mentally ill account for over half of all medication costs. The mentally ill make up a large portion of the Jail population, and therefore drive much of the cost related to medications.

Inmate Population Increase

Finally, in 2000, the Jail population increased 33 percent after opening of the new Adult Detention Center, an event that created additional demands on the health care system, including the need for medications. In addition, the new Jail was equipped with a health care unit, or small hospital, with beds for sick inmates, where inmates could be treated for conditions that otherwise would require referral to an outside hospital. This health care unit has never been opened due to the decision of policy makers. However, in 2000, additional nurses were hired in anticipation of its opening. A larger nursing staff likely resulted in more inmates being seen and therefore additional medications being prescribed.

Significant increases in medication costs over the past decade, though alarming, were at least partly justified in bringing the Jail to a higher and better level of care for inmates. Nevertheless, costs should be continually monitored to ensure that excessive increases do not occur, and that the types of treatment and

therapies used with inmates are the most cost effective.

A 36% increase in costs occurred in 2004 and was attributed to increased use of psychotropic medications for treatment of depression and mental illness. Expenditures of \$785,601 in 2003 increased to \$1,071,824 by 2004, a 36 percent spike in pharmaceutical costs. These increased expenditures largely resulted from start-up problems with the current Mental Health Contractor whose Jail contract began in November 2003. Initially, the Mental Health Contractor did not have psychiatrists on staff and lacked a formulary as a guide for efficient and cost effective prescription and dispensing of medications.

As a result, the Mental Health Contractor relied on the use of expensive psychotropic medications in the absence of qualified staff to pursue less costly educational counseling and therapeutic alternatives. This produced increased overall pharmaceutical expenditures. Moreover, they lacked access to coupons on certain medications, such as Zyprexa, an antipsychotic medication, that the previous contractor had utilized. Monthly coupon savings on Zyprexa that totaled as much as \$20,000 per month during 2002 and most of 2003 phased out by February of 2004.

Three Mental Health Managers were hired and subsequently fired or otherwise resigned in the first 18 months of the contract term. Since these initial challenges, the Mental Health Contractor has improved operations, including the hiring of psychiatrists, maintaining and following a drug formulary, and pursuing the acquisition and use of coupons. Moreover, the current Mental Health Manager has occupied his position for 1 ½ years, providing continuity and stability to management and operations. Improved functionality of the Mental Health Contractor has possibly contributed to more efficient pharmaceutical spending. Expenditures decreased in 2005 to \$957,335, and decreased again in 2006 to \$949,857.

Invoices were paid at face value without any price verification. The Pharmacy Contractor bills the County each month for medications that are delivered to the Jail. Two invoices are produced, one a summary statement showing only the total amount owed, and the other one a multi-page detailed invoice of about 4,000 lines, each line providing information on the amount billed for each order, number of pills or units shipped, and the name of the inmate to whom it was prescribed. The invoice arrives in one of the shipments shortly after the end of the month and is delivered to the Jail Health Authority, who then makes copies for the Medical Contractor, the Mental Health Contractor, the Captain over Jail Services Division, the Director of Nursing and the Quality Assurance Nurse.

The Health Authority indicated that he spends between 30 and 60 minutes reviewing the detailed invoice, much of this time being spent in follow-up on any medication incidents which occurred during the billing period. His focus is on large shifts in costs and the reason for those shifts. The Health Authority authorizes payment and forwards the invoice to Jail staff for processing and

Invoices require greater scrutiny before being paid.

Jail Medications

payment.

The potential for overpayment to the Pharmaceutical Contractor exists because the invoice is not verified by comparing each order billed to orders previously entered into the Electronic Medical Record and faxed to the Pharmaceutical Contractor. Sole reliance on the Pharmaceutical Contractor for accurate billing is an ineffective business practice that could result in losses to the County if inaccurate data were produced. Therefore, the orders entered into the EMR should be checked against the detailed monthly invoice. This could be performed manually, but more realistically a program should be developed to interface between the EMR and the Pharmaceutical Contractor's system, providing an exception report on medications billed to the Jail but not received.

Medications received were not verified against medications ordered, and items returned to the Pharmaceutical Contractor were not tracked and compared to refunded amounts. The Jail relies on the Pharmaceutical Contractor to send the correct number of medications ordered and did not verify shipments with orders entered into the EMR. As mentioned previously, each shipment was received with a packing slip on a computer disk that contained the items in the shipment. However, medications received in the shipment were not compared to medications ordered, as recorded in the EMR. Rather, items received are compared to an electronic packing slip generated by the Pharmaceutical Contractor, which may or may not reconcile to what was ordered through the EMR.

Also, unused, non-controlled substance medications in their original blister packs were not counted and documented before being returned to the Pharmaceutical Contractor for credit. These medications were discarded in a box, and then shipped to the Pharmaceutical Contractor. Thus, the Jail relied solely on the Pharmaceutical Contractor to refund an accurate amount to them on returned items. To ensure that refunds from the Pharmaceutical Contractor are accurate, the Jail should keep a log of all items returned and compare the log to refunded amounts detailed on the monthly invoice.

As with verification of the billing, inventory control over medications received at the Jail, and medications returned for refund, is more efficiently accomplished through electronic means. An interface should be developed between the EMR and the Pharmaceutical Contractor's system that would produce an exception report for items ordered but not delivered. For medications designated for return, a bar code scanner should be used to record items returned to the Pharmaceutical Contractor, and the listing of returned items should then be compared to the monthly invoice detailing amounts refunded to the Jail. Any unexplained discrepancies should be reported to the Pharmaceutical Contractor.

A theft of a controlled substance occurred, and inventory controls over these substances were inadequate. A theft of Lortab, a narcotic pain reliever, occurred during the time our audit was in process. One of the pharmacy techs committed the theft, which was observed by one of the other pharmacy techs as a shipment was being unpacked, who then reported the theft

to Jail administration. Three cards of 30 tablets each were stolen. The individual who committed the theft was placed on administrative leave and subsequently resigned.

We found that procedures for tracking controlled substances were not adequate to deter theft. While Jail medical staff does track individual pills within each bottle or on each blister pack, and in fact, double counts these pills twice a day, no overall inventory control sheet is used to list each bottle or blister pack in the controlled substance cabinet. An overall control sheet should be produced that lists each bottle or blister pack and is cross-referenced with the flow sheet of twice-daily individual pill counts.



Salt Lake County Adult Detention Center

II. Introduction

The Salt Lake County Adult Detention Center (Jail) administers medications to inmates according to existing prescriptions and medical needs. Inmates receive a medical screening after booking that includes assessment of current prescription medication usage. Nurses or clerks contact pharmacies, physicians or other jails to validate these prescriptions. Following evaluation from a Jail physician or nurse, inmates may be prescribed and receive their regular medications. All medications are dispensed on-site at the Jail.

Any medications that individuals have on their person at the time of booking are removed from them prior to dressing and entering the Jail. Medical evaluations may result in an inmate being placed on a new medication or having existing therapies added to or changed. Upon release, inmates are required to discard into a bin all unused medications received at the Jail.

Contracted Pharmacy

The Jail contracts with a pharmacy based in Pennsylvania (Pharmaceutical Contractor) to provide all medications. The Pharmaceutical Contractor sends medications to the Jail through an overnight delivery service. Local pharmacies may be used, and billed through the Pharmaceutical Contractor, when the need for a particular medication is urgent and overnight delivery is not timely.

Over 20,000 prescriptions are written each year for inmate medical needs. Figure 1 on page 12 shows trends in the number of prescriptions issued over the five-year period from 2001 through 2005. Numbers are derived from a monthly

An average of 2.3 prescriptions was written per inmate booked into Jail in 2005.

statistical report to the Jail from the Pharmaceutical Contractor. The number of non-duplicate inmates during this same period is included on the second axis of the graph. Averages of 21,283 non-duplicate inmates were booked into Jail during this period, and in 2005, 21,666 non-duplicate inmates were booked and 49,041 prescriptions issued, for an average of 2.3 prescriptions per inmate.

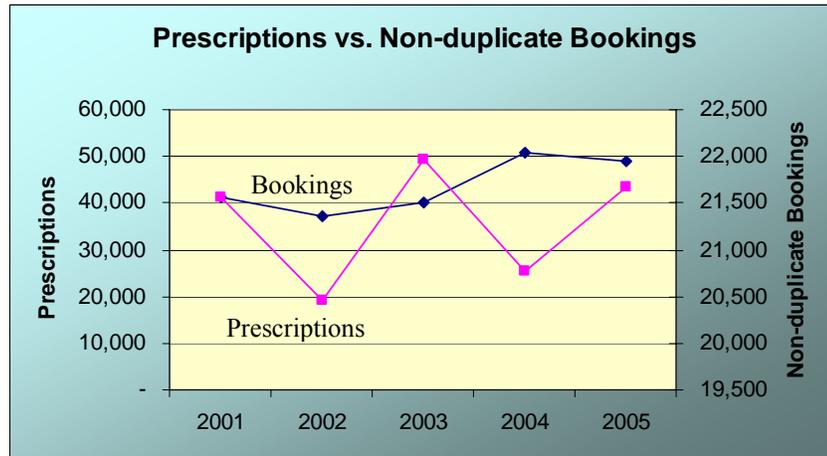


Figure 1. *In 2004 the number of bookings increased as the number of prescriptions decreased, while the opposite happened in 2005.*

Jail Medical Staffing

The Jail Health Authority has practical supervision over day-to-day medical operations.

The Sheriff is the official jailer of the County, as designated in State Statute. The Corrections Bureau Chief is the chief administrator, and a Captain is the administrator over health services. A non-officer Jail Health Authority, who holds a Bachelor of Science in Nursing, oversees day-to-day medical operations, including administration of medications. A Director of Nursing reports to the Jail Health Authority. Three Pharmacy Technicians and a Medical Records Manager also report to the Health Authority.

The Pharmacy Technicians (pharmacy techs) are assigned specifically to pharmacy operations. They are not licensed pharmacists. Their duties include faxing prescriptions to the Pharmaceutical Contractor, receiving shipments, placing medications on carts for dispersing to inmates, and generally keeping the pharmacy room in order. A pharmacist from the Pharmaceutical Contractor’s head office in Pennsylvania visits the Jail quarterly to observe operations, meet with staff, and destroy controlled substances that have expired or are no longer needed, an issue discussed later in the report.

A separate contractor provides a staff of physicians (Medical Contractor), and another contractor provides mental health services (Mental Health Contractor). The Medical Contractor is influential in guiding clinical practices and takes a significant role in advising the Jail on medical operations, including the types of medications that should be used. Except for the physicians and mental health staff, all other professionals, including the nurses, are Salt Lake County

employees. Shown in Figure 2 below is an organization chart of Jail medical staffing.

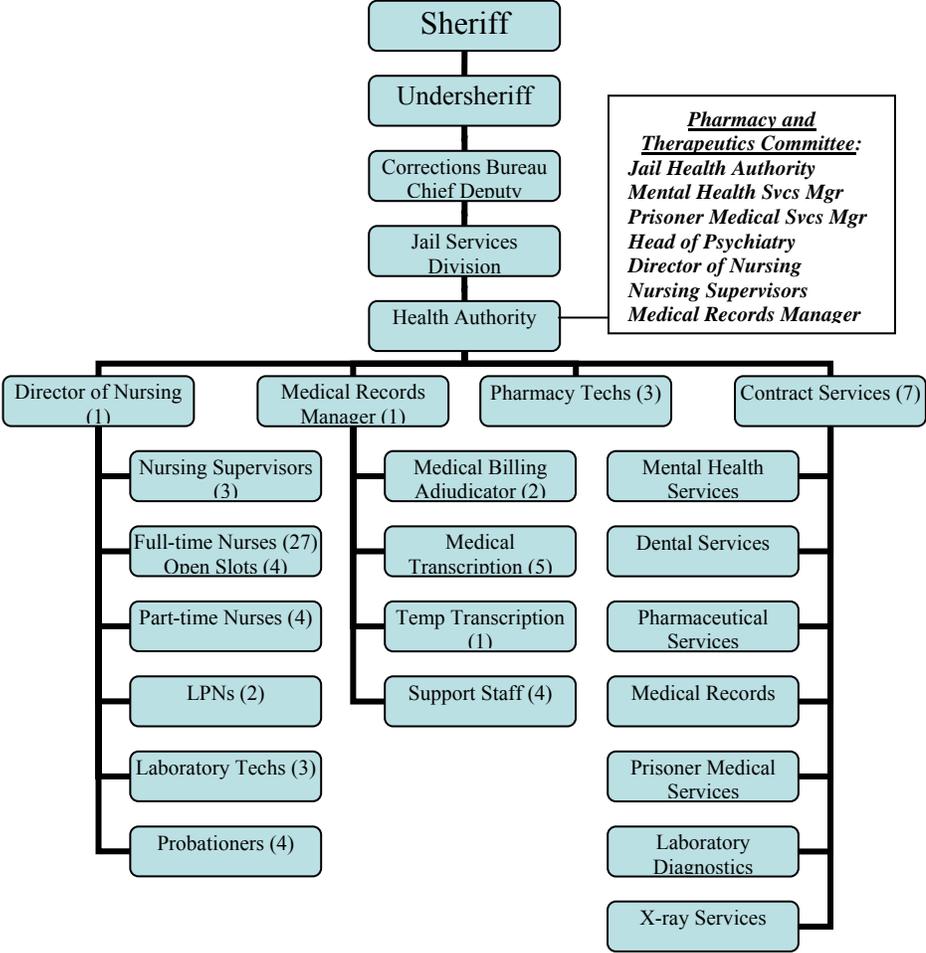


Figure 2. Organization Chart of the Jail Medical Unit

Dispensing Process

The Jail faxes prescriptions and medication requests to the Pharmaceutical Contractor each day except Sunday. Those received before 1:00 p.m. will have orders filled and delivered by UPS the next day. As a practical matter, most medications are received two days after the order is placed because physicians ordinarily make their rounds and enter their orders in the evening, resulting in prescriptions being faxed the next day. Licensed physicians, nurse practitioners, and physicians’ assistants are authorized to write prescriptions. Registered nurses also issue prescriptions, but only by order of a physician.

Prescriptions are entered into the inmate’s Electronic Medical Record (EMR), an on-line system the Jail implemented in 2000 for recording inmate medical conditions, visits by health professionals, and ordering and dispensing of

medications. All inmates booked into Jail have an individual record within the EMR.

Pharmacy techs print and fax a list of prescriptions to be filled from the EMR to the Pharmaceutical Contractor. Prescriptions are renewed through use of renewal stickers that the Pharmaceutical Contractor attaches to the prescription packaging or blister packs. Pharmacy techs remove these stickers, place them on a reorder sheet, and fax the sheet to the Pharmaceutical Contractor.

Medications arrive at the Jail in the UPS shipment together with an electronic packing slip on floppy disk. Using a bar code scanner, a single pharmacy tech scans each item for comparison with the electronic packing slip. A report of items received is then printed and the floppy disk is sent back to the Pharmaceutical Contractor.

Nurses track the receipt and dispensing of medications to inmates on a card called the Medical Administration Record (MAR). A separate card is completed for each inmate on medications. A self-adhesive label is removed from the blister pack and affixed to the MAR. A nurse places the MAR, filed in a binder, on a cart used for medication dispensing. Once a card is completely filled out, the image is scanned into the EMR.

Most medications are in “blister packs” imprinted with the name of the inmate.

The Contractor packages medications in blister pack cards imprinted with the name of the inmate to whom the medication is prescribed. Pills in blister pack cards are individually sealed in plastic bubbles. When ready to take, pills are popped out of the bubble through the foil and paper seal beneath. Pharmacy techs place these blister pack cards alphabetically by inmate name in drawers within the cart. Certain “stock” medications, including over-the-counter drugs, are kept on hand for ready access as needed. The make up of the stock inventory is determined by the Pharmacy and Therapeutics Committee.

A nurse or pharmacy tech wheels the medication carts out to the three jail pods and the mental health unit twice a day for dispensing medications to inmates. The first round occurs after breakfast at about 7:00 or 7:30, and the second occurs later in the day at about 4:30. Drugs are administered to inmates in one of two ways:

About 75 percent of medications dispersed are keep-on-person (KOP).

- Direct-observe therapy
- Keep-on-person (KOP)

Direct-observe therapy occurs in the morning and KOP in the afternoon, though nurses can dispense KOP in the morning as well as the afternoon. As a matter of routine, KOP medications are dispensed in the afternoon by one of the pharmacy techs.

Most medications are KOP, meaning the pharmacy tech hands a blister pack card to the inmate who then takes the pills without observation. The supply of medications in the blister pack is kept in the inmate’s cell. Unused medications, remaining in the blister packs are surrendered upon release as part of the release process. Blister packs accumulate in the original-shipment box until shipped to

About 75 percent of medications dispersed are keep-on-person (KOP).

the Pharmaceutical Contractor for credit.

The other method, direct-observe therapy is used with 25 percent to 30 percent of inmates. A nurse hands the dosage to the inmate, who is standing in the common area of the pod with a cup of water. The inmate shows the nurse that the pill was swallowed. A pill crushing device is carried on the cart for reducing medications to powder for inmates who would otherwise hide the pill in their mouth without swallowing it.

The number of tablets or units per dose in each prescription may vary. However, a 90-day supply is typical. The Jail does not receive the full 90-day supply; the Pharmaceutical Contractor sends 15-day increments at a time, following which additional increments may be requested. Physicians must review each prescription every 90 days. The EMR automatically flags prescriptions that need to be reviewed. Pharmacy techs print a discontinuation report from the EMR for inmates that have “rolled up,” or been released from Jail, and faxes this report to the Pharmaceutical Contractor to stop medications delivery.

Guidelines for Operations

A formulary, or list of preferred drugs, is built into the EMR and exists to control costs and achieve satisfactory clinical results. Any deviation from the formulary when prescribing medication should be reviewed by another physician. A Pharmacy and Therapeutics Committee exists to discuss current trends in prescriptive practice, errors at the facility, and proposed changes to the formulary. The committee meets quarterly and currently is chaired by the Medical Contractor.

Pharmaceutical operations are governed by the Utah Pharmacy Act and further controlled by guidelines set forth by the National Commission on Correctional Health Care (NCCHC) in its publication *Standards for Health Services in Jails*. Membership in this group is voluntary but belonging to a nationally recognized accreditation group such as NCCH provides peer status to the Jail. Also, the Drug Enforcement Agency (DEA) has issued a license to the Jail to administer controlled substances.

Charges and Credits for Medications Dispensed

The contract with the pharmacy provider specifies the method for which medications will be charged to the Jail. The current contract, in effect since November, 2005, has a term of three years, and is renewable for two additional one-year periods. It specifies that medications will be charged at “actual acquisition cost” plus \$3.40 (dispensing fee) per prescription. The dispensing fee is charged in the first invoice covering the initial 15-day increment of a 90-day supply. Thus, the dispensing fee is fixed regardless of the actual portion of the 90-day supply dispensed.

A supply of stock medications is maintained on the shelf and not ordered as a result of a prescription for a particular inmate. These stock medications are

About \$19,000 in co-pay fees were collected from inmates in 2005.

billed at actual acquisition cost plus 16 percent.

By contrast, the prior contract, effective from March 2000 through most of 2005, specified that the Jail was to be charged the “average wholesale price less 14 percent” for all brand name medications, and “average wholesale price less 35 percent” for all generic medications. A dispensing fee was not assessed under the prior contract.

Also, the Pharmaceutical Contractor refunds the charge for unused medications returned to them prior to three months from the expiration date and pills remain in their original blister pack. A \$1.95 processing fee applies to each prescription. Therefore, the Jail would not receive any refund on a prescription for which the acquisition cost was \$1.95 or less.

Inmates are assessed a \$3 co-pay per prescription, a fee that is waived if the inmate does not have the money, or if the medication is for a chronic illness, such as insulin in treating diabetes. Inmates in the mental health units are charged a co-pay of \$3 per month. In 2005, the amount of co-pays the Jail collected was \$19,000.

III. Scope and Objectives

This audit was initiated to examine the processes for ordering, receiving, dispensing and returning of medications used by inmates at the Jail. The report addresses internal control issues at each stage of these processes.

We examined trends in pharmaceutical and medical costs and Jail population over various periods of time, but focused mainly on years from 2001 through the first half of 2006, the period for which detailed invoices and other statistical data were on file and available to us.

The scope included a review of the pharmaceutical contracts and the role of Medical and Mental Health Contractors in influencing medication expenditures. Our work was designed to achieve the following:

- Determine whether the bid process entered into prior to the contracts, and related requests for proposals were adequately evaluated to select the vendor that would most efficiently service the medication needs of inmates.
- Determine the contract period for the current and prior pharmaceutical contracts, and the number of years the current Pharmaceutical Contractor has been engaged at the Jail.
- Review current and prior agreements between Salt Lake County and the Pharmaceutical Contractor for terms related to pricing on medications.
- Review per-pill or per-unit prices on medications for reasonableness within the context of trends in overall medical costs at the Jail and with

pharmaceutical costs at other peer jails throughout the country.

Trends in expenditures for pharmaceutical operations provide important performance indicators and alert management to inefficiencies that may be occurring. Our review of pharmaceutical cost data was designed to address the following objectives.

- Determine medication price trends by comparison of current over prior years, the causes of any changes in prices occurring over time, and the total amount of expenditures by year over the past 10 years.
- Determine how the medication pricing at the Jail compares to other selected jails nationwide, as a means of benchmarking.
- Determine the number and type of medications that have been dispensed by year since the beginning of the current contract.

Adequate internal controls ensure that medications are not improperly dispensed or diverted to personal use or profit. Also, adequate internal controls help contain costs and provide for efficient distribution of medications to inmates. Our examination of internal controls was aimed at the following objectives:

- Determine the process by which medications ordered are reconciled to those actually received, and whether medications invoiced are reconciled to those ordered, dispensed, and returned for credit.
- Determine the process for dispensing medications at the jail, including process for writing of prescriptions, and the qualifications of individuals authorized to write prescriptions.
- Determine how controlled substance inventories are regulated and monitored, and whether a regular inventory-reconciliation count is conducted.
- Determine the process for labeling blister packs for dosage and name of the individual to whom the medication is to be dispensed.
- Determine the disposition of unused meds in blister packs and the extent to which the County is credited for unused pills remaining in these packs.

Although the audit team performed work designed to address each audit objective, comments are limited to those which address material operational issues and concern. It should be noted that our reviews of records and documents were limited to samples. We did not look at 100 percent of the records. As with all sampling, there is a risk that issues may not be identified.

IV. Findings and Analysis

Findings and recommendations are divided into five sections: 1) Per-unit Prices of Medications, 2) Overall Expenditures on Medications, 3) Refunds for Unused Medications, 4) Inventories of Medications, 5) Reporting by and Satisfaction with Pharmaceutical Contractor.

1.0 Per-unit Prices of Medications.

Per-unit price refers to the price-per-pill or dose. Most medications at the Jail are taken orally as a tablet, capsule or caplet (pills). Other medications may be in the form of injections, nasal sprays, creams, drops or inhalants. For purposes of this report, analysis was limited primarily to pills because other types of administration were much less common, more difficult to measure, and formed a relatively insignificant percentage of costs. Therefore, medications are referred to on a “per-pill” basis. Per-pill prices on average increased year to year, though in many individual instances they decreased, and prices vary from jail to jail nationwide, as discussed in the following findings of this section:

- **The per-pill price among medications at the Jail followed national trends of continually increasing pharmaceutical prices.**
- **Medication prices at the Salt Lake County Jail compare favorably to prices at other jails nationwide.**

1.1 The per-pill price among medications at the Jail followed national trends of continually increasing pharmaceutical prices.

We found this to be the case, particularly over the past five years as we performed a per-pill cost analysis for each medication prescribed during the month of December of each year from 2001 through 2005, and during March 2006. Our analysis was limited because the data provided from the Pharmaceutical Contractor and Jail operations was available in hard-copy form only, not on electronic media. Therefore, analysis of medication prices for all months in the 5-year study period, though preferable, proved prohibitively tedious and time consuming due to the requirement of inputting the hard-copy data into a data base.

As stated, we were able to obtain detailed hard-copy invoices from January 2001 to March 2006. About 4,000 lines of data were included in each invoice. From these invoices, the data was entered from December of each year from 2001 through 2005, and March 2006 into an electronic spreadsheet. This enabled us to analyze and compare the “price-per-dose” for selected medications for each month, year over year.

The Consumer Price Index for Medical Care Commodities shows that prices are increasing nationally.

We also performed analysis and determined that on a macro level the amount expended for medication at the Jail has increased from \$146,374 in 1996 to \$957,335 in 2005, an increase of over 550 percent, or an average of over 60 percent per year. We determined that this dramatic increase was not due solely to cost inflation. The increase in the Consumer Price Index (CPI) for Medical Care Commodities (MCC), for prescription drugs and medical supplies; and non-prescription drugs and medical supplies, over the same period totaled 31.1 percent, an average of 3.06 percent per year. Likewise, the Producer Price Index (PPI) for pharmaceutical preparations rose 49.1 percent, or an average of 4.58 percent per year. The PPI is defined as the price producers charge wholesalers for their product. This is different from the CPI because it reflects the price at the wholesale level rather than to the end consumer (CPI). Thus, we concluded that while some of the rise in medication costs can be attributed to inflation, it is clearly not the primary factor driving a five-fold increase over ten years.

Although the overall focus of the audit was on the dramatic rise in spending for medications at the Jail, our analysis was further aimed at determining the root causes of the increase. The causes we examined were:

1. Cost inflation
2. Changes in the contract costing formula
3. Changes in drug utilization
4. Changes in price per dose, doses dispensed, and influence of formularies

Cost Inflation

While the overall cost of medications at the Jail increased an average of 60 percent per-year over the 10-year period, the CPI-MCC increased an average of 3.06 percent per year between 1996 and 2005. Remarkably, the average CPI-MCC increase from 2001 to 2005 was a modest 2.75 percent per year. Therefore, only a portion of the overall expenditure increase can be attributed to inflation. Table 1 on page 20 shows the 10-year trend in the CPI Medical Care Commodities as well as the changes in the Producer Price Index (PPI) for Pharmaceutical Preparation Manufacturers over the same period.

Annual Percentage Increase of CPI - Medical Care Commodities & PPI - Pharmaceutical Preparations				
Year	CPI - Medical Care Commodities	Percent Increase	PPI - Pharmaceutical Preparations	Percent Increase
1996	210.4	Base	253.9	Base
1997	215.3	2.33%	259.1	2.05%
1998	221.8	3.02%	290.1	11.96%
1999	230.7	4.01%	298.5	2.90%
2000	238.1	3.21%	306.6	2.71%
2001	247.6	3.99%	314.5	2.58%
2002	256.4	3.55%	326.7	3.88%
2003	262.8	2.50%	343.3	5.08%
2004	269.3	2.47%	360.1	4.89%
2005	276.0	2.49%	378.7	5.17%
10-Year average annual increase		3.06%		4.58%

Table 1. *The Consumer Price Index of Medical Care Commodities has increased an average of 3.06 percent per year while the PPI for Pharmaceutical Preparations has increased an average of 4.58 percent per year. Source: U. S. (Source: U.S. Bureau of Labor Statistics).*

A report by the Pharmaceutical Research and Manufacturers of America (PhRMA) focused on the growth in spending for prescription medications as a cause for alarm (PhRMA Fact Sheet 9/19/06). Spending on prescription medications has predictably increased as the population ages. Moreover, ever increasing “demand-pull” advertising by drug companies advising the public to “ask your doctor about” such medications as Flomax, Procrit, or Taxotere, etc., accounts for increased spending on drugs. This advertising is targeted directly to the consumer and arguably creates a demand for prescription medications which drives some of the increase both in price and overall spending.

The drug companies work hard to get information and samples of the most up-to-date drug therapies into the hands of physicians. As physicians prescribe these medications, demand drives up the cost. There are strategies to contain these increases. Requiring a formulary-based drug therapy for newly prescribed medications in jails and other institutions is a proven strategy. However, when an inmate has been on a therapy protocol with their own doctor, physicians at the Jail are, understandably, reluctant to change the existing therapy.

Changes in Contract Costing Formula

Part of our analysis was to determine any difference that a revised medication-costing formula under the current contract, signed November 16, 2005, made on

Pricing under terms of the current contract had varying effects on different medications

the total cost of pharmaceuticals at the Jail. In the previous contract with the same Pharmaceutical Contractor, medications were charged at the Average Wholesale Price (AWP), with no per-prescription dispensing fee, and full credit given for non-controlled medications returned to the Pharmaceutical Contractor prior to 90 days before their expiration date. Average Wholesale Price was based on the published Medicaid reimbursement rates for Medicare-covered drugs, used by most States.

Under the current contract, prescribed medications are charged based on Actual Acquisition Cost (AAC), plus \$3.40 per prescription. Whereas, "stock," non-prescription medications are billed at AAC, plus 16 percent. Though it appears that the new costing formula in the current contract works to reduce overall medication charges at the Jail, our analysis concludes that this reduction has been offset by the reduction in credits for returned medications. The current formula for providing credit on non-controlled medications returned to the Pharmaceutical Contractor, net of a \$1.95 per prescription refund fee, has reduced the monthly credits when compared to the previous contract. The net effect is a negligible reduction in the overall cost of medications.

The impact on prices was varied under the new compared to the prior contract. This became apparent as we compared the December 2004 invoice, prior to the current contract, to the March 2006 invoice, after the current contract took effect. We determined that prices overall have not increased under terms of the new contract, a positive finding in light of possible increases that could otherwise occur due to inflation. Generally, inclusion of the flat rate \$3.40 dispensing fee under terms of the current contract resulted in increased per-pill prices in lower-priced medications, such as Aspirin, but decreased prices in many higher-priced medications, including many of the antipsychotics and antidepressants. We validated this conclusion by performing further analysis of price changes under terms of the current versus prior contracts. We compared selected medications on the August 2005 invoice to the September 2005 invoice. This analysis is included as Appendix A.

We noted that overall expenditures in 2005 of \$957,335 decreased to \$949,857 in 2006, the first full year of the new contract, a decrease of 1 percent. How much of this decrease was due to pricing terms is indeterminable from our limited analysis, and could be influenced by several other variables. Other contributing factors could include increased attention to and use of the formulary by the Jail staff and greater efficiency in prescribing medications to the inmate population.

Changes in Drug Utilization

Changes in utilization occur not only as a result of the absence or presence of a drug therapy protocol. The dynamics of the Jail population demographics account for the increased demand for medications. For example, inmates with HIV, or women who are pregnant can now be booked into the Jail, whereas prior to 2004 these medical conditions resulted in refusal to admit. Also, medications like Methotrexate, originally developed as a cancer drug, are now prescribed for rheumatoid arthritis. To further illustrate changes in utilization,

although prices increase as new medications arrive on the market, protected by patent, as shown on Table 2 below, prices decrease dramatically when patent protection expires and generic substitutes are introduced.

A more in-depth discussion of overall Jail medication expenditures follows in Section 2.11

Changes in Prices-per-Pill – Prices above \$5.00					
<i>Drug Name</i>	<i>Dosage</i>	<i>December 2004</i>	<i>March 2006</i>	<i>Percent Decrease 2004 v. 2006</i>	<i>Percent Increase 2004 v. 2006</i>
Diflucan - Patented	100	\$8.41	\$9.36		11.30%
Fluconazole – Generic	100	\$5.69	\$0.32	-94.38%	
Fluconazole – Generic	200	\$9.31	\$2.56	-72.50%	
Zithromax/ Azithromycin – Generic	600	\$17.00	\$10.48	-38.35%	
Zithromax/ Azithromycin – Generic	250	\$7.08	\$4.47	-36.86%	
Actos	45	\$5.63	\$5.46	-3.02%	
Viread	300	\$14.26	\$13.87	-2.73%	
Abilify	10	\$9.90	\$9.88	-0.20%	
Zerit	40	\$5.38	\$5.37	-0.19%	
Risperdal	2	\$5.26	\$5.50		4.56%
Risperdal	3	\$6.18	\$6.22		0.65%
Risperdal	4	\$8.30	\$8.39		1.08%
Viramune	200	\$10.30	\$6.29		3.62%
Combivir	150/300		\$10.77		4.56%
Seroquel	300	\$6.92	\$7.27		5.06%
Seroquel	200	\$5.28	\$5.63		6.63%
Imitrex	25	\$18.13	\$19.58		8.00%
Levaquin	500	\$9.54	\$10.41		9.12%
Zyprexa	5	\$6.17	\$6.88		11.51%
Zyprexa	15	\$13.38	\$14.61		9.19%
Zyprexa	20	\$17.81	\$19.46		9.26%
Flovent Inhaler	110	\$6.32	\$7.31		15.66%
Average				-41.31%	7.66%

Table 2. Drug prices fell when generic versions came on the market.

Changes in Price per Dose, Doses Dispensed, and Influence of Formularies

From our analysis of the data provided, we postulated that changes in overall Jail medication costs are influenced by several variables:

- Changes in price per dose,
- Changes in the number of doses dispensed, and
- Changes in the drug formularies influenced by generic substitutions.

We determined that 187 discreet, yet identically comparable medications were dispensed during both December 2004, under the old contract, and March 2006, under the current contract. Some of these medications were the same brand name, but in different dosages. We divided these medications into three broad classes for comparability, based on their 2004 per-dose price:

“High Price Drugs” - Per-dose price \$5.00 or >	22
“Mid Price Drugs” - Per dose price \$1.00 and < \$5.00	56
“Low Price Drugs” - Per dose price < \$1.00	<u>109</u>
Total	<u>187</u>

Each of the variables outlined above has the potential to interact with the other. For example, basic economic theory would support the idea that reduced cost of medication could drive up demand and increase the number of doses dispensed. Likewise, the transition over time of drugs coming out of “patented” status, with substitution of “generic” brands has an effect on both cost/price and demand.

Appendices B, C, and D of this report are designed to provide an in-depth analysis of these variables. Tables 3 and 4 on page 24 provide excerpts from these Appendices and highlight the findings from this analysis.

Changes in Price per Dose and Effect on Quantity				
Category	Cumulative Price/Quantity Per-Dose			
	Dec 2004	Mar 2006	Price/Qty/ Expend./ Change	Percent Change
High Price (22 Medications)				
Cumulative Price Decr. (8)	\$74.25	\$52.41	-\$21.84	-29.40%
Cumulative Qty Change	575	514	-61	-10.60%
Total Expenditure Change	\$4,369.03	\$3,006.01	-\$1,363.02	-31.20%
Cumulative Price Incr. (14)	\$128.07	\$137.68	\$ 9.61	7.50%
Cumulative Qty Change	3,612	3,797	185	5.1%
Total Expenditure Change	\$25,828.81	\$28,294.59	\$2,465.78	9.55%
Weighted Avg Price/Dose	\$7.21	\$7.26	\$0.05	0.67%
Total Monthly Expend.	\$30,197.84	\$31,300.60	\$1,102.76	3.65%
Mid Price (56 Medications)				
Cumulative Price Decr. (23)	\$42.03	\$22.69	-\$19.34	-46.00%
Cumulative Qty Change	5,613	8,393	2,780	49.5%
Total Expenditure Change	\$9,371.50	\$6,824.35	\$2,547.15	-27.20%
Cumulative Price Incr. (33)	\$86.86	\$95.99	\$9.13	10.51%
Cumulative Qty Change	7,282	6,329	-953	-13.10%
Total Expenditure Change	\$20,358.11	\$18,185.03	-\$2,173.08	-10.70%
Weighted Avg Price/Dose	\$2.31	\$1.70	-\$0.61	-26.32
Total Monthly Expend.	\$29,729.61	\$25,009.38	-\$4,720.23	15.90%
Low Price (109 Medications)				
Cumulative Price Decr. (60)	\$30.86	\$12.00	-\$18.86	-61.11%
Cumulative Qty Change	41,278	42,408	1,130	2.74%
Total Expenditure Change	\$16,507.48	\$8,153.10	-\$8,354.38	-50.61%
Cumulative Price Incr. (49)	\$8.05	\$15.02	\$6.97	86.63%
Cumulative Qty Change	32,252	36,313	4,061	12.59%
Total Expenditure Change	\$4,139.01	\$7,851.16	\$3,712.15	86.69%
Weighted Avg Price/Dose	\$0.28	\$0.20	-\$0.08	-27.60%
Total Monthly Expend.	\$20,646.49	\$16,004.26	-\$4,642.23	22.48%

Table 3. Cumulative Price/Quantity Per Dose.

Total Quantities Ordered				
Category	Dec 2004	Mar 2006	Quantity Change	Percent Change
High Price	4,187	4,311	124	2.96%
Mid Price	12,895	14,722	1,827	14.17%
Low Price	73,530	78,721	5,191	7.06%
Total	90,612	97,754	7,142	7.88%

Table 4. Quantities ordered increased most in the mid-priced category.

Effect of Price Decrease on Quantities Ordered

Price Elasticity of Mid-Price Medications – Appendix C. Review of the data in Table 3 on page 23 revealed that the Mid-Price medications are the most price-elastic.

- For the 23 Mid-Price medications where the cost dropped 46 percent, the quantity ordered increased by nearly 50 percent. This resulted in a reduced total expenditure of 27 percent.
- Conversely, for the 33 Mid-Price medications where cumulative cost increased by 10.51 percent, the quantity ordered decreased by 13.1 percent.
- Cumulatively, this produced a near 16 percent reduction in total monthly expenditures, comparing December 2004 to March 2006.
- ***Conclusion - for Mid-Price medications, demand showed the classic elastic-response to cost, i.e., demand increased as cost decreased, nearly proportionately, and vice-versa.***
- Drugs in the Mid Price category include such clinical names as:

<u>Name of Medication</u>	<u>Common Use</u>
○ Neurontin/Gabapentin	Seizures, pain
○ Depakote	Seizures, bipolar
○ Zocor	Cholesterol
○ Flomax	Enlarged prostate
○ Lipitor	Cholesterol
○ Plavix	Blood clots

Price Inelasticity of High-Price Medications – Appendix B. Review of the data in Table 3 above indicated a lack of price elasticity for High-Price Drugs.

- For the 8 High-Price medications showing a cumulative cost decrease of 29.40%, the cumulative, year-over-year quantity ordered decreased by 10.60 percent.
- Likewise, for the 14 High-Price medications that experienced a cumulative cost increase of 7.50%, the quantity ordered increased by 5.10 %.
- Cumulatively, this produced a 3.65 percent increase in total monthly expenditures, comparing December 2004 to March of 2006.
- ***Conclusion: - for High-Price medications, demand did not follow the classic elastic-response to cost. Thus, demand decreased as cost decreased, nearly proportionately, and, in fact, where costs increased the quantity ordered increased. The fact that many of the High Price medications are newly-developed psychotropic/antipsychotic formulae may explain this inverse cost vs. demand relationship.***

- Drugs in the High Price category include such clinical names as:

<u>Name of Medication</u>	<u>Common Use</u>
○ Fluconazole/Diflucan -	Anti-fungal
○ Zithromax/Azithromycin	Antibiotic
○ Seroquel	Schizophrenia
○ Levaquin	Antibiotic

Price Insensitivity of Low-Price Medications – Appendix D. Analysis of the data in Table 3 above disclosed some upward elasticity in demand for drugs for which prices fell, yet a negative elasticity of demand for drugs where prices had actually increased, in other words demand increased.

- For the 60 Low-Price medications that experienced a cumulative cost decrease of 61.11 percent, the quantity ordered increased only 2.74 percent.
 - For some items, such as Ibuprofen 800, demand decreased by 23 percent even though price decreased by 10 percent – *an atypical response*.
 - Conversely, for Hydrocodone /Apap 5/500, demand increased by 467 percent relative to a 77 percent price decrease – *more classical economic response*.
- For the 49 Low-Price medications associated with a cumulative cost increase of 86.63 percent, the quantity ordered increased by 12.59 percent.
- Examples of medications for which demand markedly increased despite significant cost increases were – *atypical response*:

<u>Name of Medication</u>	<u>Common Use</u>
○ Aspirin EC	Low-dose aspirin therapy
○ Acetaminophen	Pain relief, anti-inflammatory
○ HCTZ	Blood pressure
○ Prednisone 20/40	Steroidal anti-inflammatory
○ Furosemide	Diuretic

- ***Conclusion:*** *These examples demonstrate that some factor(s) other than the typical reaction of demand to price is/are exerting influence. This may be due, for example, to the provision in the new contract where the pharmaceutical supply company is entitled to add a \$3.40 per-prescription processing fee to the actual acquisition cost (AAC). Whereas, in the prior contract the cost of medications was based solely on the Average Wholesale Price (AWP).*

However, notwithstanding the above analysis, cumulatively, the Low-Cost medications experienced a 22.48 percent decrease in total monthly expenditures, comparing December 2004 to March 2006. The effect was somewhat neutralized by the \$1.95 refund fee on returned medications, as already mentioned and

further discussed in section 3.3. The net effect resulted in overall expenditures that remained largely unchanged under terms of the new contract. Our analysis of average prices-per-dose in each category is shown in Appendix B for high-end prices, Appendix C for mid-range prices and Appendix D for low-end prices.

Based on this analysis, we do not believe that the new contract terms provide any significant cost savings over the previous contract terms or conversely, result in any significant increase to overall costs. However, future tracking of Average Wholesale Price increases versus Average Manufacturer Price increases may be beneficial to help determine optimal future contract terms. Average Manufacturer Price (AMP) is the average price paid to the manufacturer by wholesalers for drugs distributed to the retail pharmacy class of trade, after deducting customary prompt pay discounts.

1.2 RECOMMENDATION:

We recommend that jail administration periodically compare a sample of medications prices per the invoice to the “Average Wholesale Price,” the “Average Acquisition Price” or other pertinent index, for example “Average Manufacturer Price,” to determine if any unusual increases are occurring at the Jail.

1.3 Medication prices at the Salt lake County Jail compare favorably to prices at other jails nationwide.

We compiled a list of 24 Jails in major metropolitan areas around the country. Table 5 on page 28 lists these 24 jails and indicates whether or not they responded.

Jails in Major Metropolitan Areas		
Facilities Contacted	Response	
	Yes	No
Ada County, ID		X
Bernalillo County, NM	X	
Bexar County, TX	X	
Broward County, FL	X	
Contra Costa County, CA	X	
Cuyahoga County, OH	X	
Denver County, CO	X	
DuPage County, IL	X	
Franklin County, OH	X	
Harris County, TX	X	
Hennepin County, MN	X	
Jefferson County, KY	X	
King County, WA	X	
Maricopa County, AZ	X	
Multnomah County, OR		X
Orange County, CA	X	
Orange County, FL	X	
Pinellas County, FL	X	
San Bernardino County, CA	X	
San Diego County, CA	X	
Shelby County, TN		X
Suffolk County, MA		X
Utah County, UT	X	
Northeastern County	X	

Table 5. *Twenty of the 24 jails surveyed responded to our questionnaire.*

From this list we surveyed prices on 20 selected medications for comparison. In January and February, 2006 we contacted the jails and conducted the bulk of our survey. Twenty of the 24 responded, a response rate of 83 percent.

We provided the jails a list of 20 medications, as shown in Table 6 on page 29, and asked them to indicate the per-pill price they paid on each. We tended to select psychotropic medications, including antidepressants and anti-psychotics, because of their higher prices and wide usage, compared to most other medications. We used the October 2005 invoice to calculate price-per-pill for use in comparing our Jail to other jails in the survey. Initially we believed a \$3.40 dispensing fee required under terms of the current contract was not included in this invoice because the invoice occurred prior to the current contract which we believed took effect on November 15, 2005. However, we ascertained that the Pharmaceutical Contractor charged rates under terms of the current contract as of September 1, 2005. This early change in pricing structure was not known to us or other County or Jail officials. The Pharmaceutical Contractor only recently confirmed that current contract pricing terms were put into effect on September 1, 2005. Invoices reflected such pricing as of that date. Therefore, our analysis for

Salt Lake County within the survey data will show prices both with and without the \$3.40 dispensing fee.

Number of Facilities Using Selected Medications			
	<i>Drug name</i>	<i>Dosage</i>	<i>Number of Yes Responses</i>
1	Amitriptyline	50 mg tablet	18
2	Bupropion	75 mg tablet	17
3	Combivir	150/300 mg tablet	16
4	Depakote	250 mg tablet	17
5	Effexor	75 mg tablet	18
6	Fluoxetine	20 mg capsule	18
7	Fluoxetine	10 mg capsule	16
8	Geodon	80 mg capsule	18
9	Lexapro	20 mg tablet	18
10	Paroxetine	40 mg tablet	18
11	Phenytoin	100 mg tablet	18
12	Prilosec	20 mg tablet	17
13	Risperdal	4 mg tablet	19
14	Risperdal	3 mg tablet	19
15	Seroquel	300 mg tablet	19
16	Truvada	200-300 mg tablet	15
17	Zofran	8 mg tablet	11
18	Zoloft	100 mg tablet	19
19	Zyprexa	15 mg tablet	17
20	Zyvox	600 mg tablet	12

Table 6. *Not all jails used the same medications as our Jail.*

Various issues arose as we compared pricing with other jails. Several jails did not use all of the drugs for which pricing was requested.

***Medication pricing
between Salt Lake
and Maricopa
Counties was
comparable.***

Data for Salt Lake and Maricopa is particularly relevant because pharmaceutical models are identical, including use of the same third party vendor and dispensing of medications in blister packs. Medication pricing between Salt Lake and Maricopa Counties was comparable. A comparison of the two is shown in Table 7 on page 30. Calculations for both counties included a flat \$3.40 dispensing fee per shipment. Inclusion of this flat fee created fluctuations in price between the two counties on identical medications depending on quantities of pills used in the calculation. A larger quantity of pills in a shipment produced a lesser price-per-pill charge because the flat fee could be spread over a larger quantity. Small differences in prices between the two counties were likely due to the number of pills used in the price-per-pill calculation, with each County using a different amount based on quantities shipped, as noted on the invoice.

Comparison of Selected Medications Salt Lake County to Maricopa County Dispensing Fee Included		
<i>Drug name</i>	<i>Cost Salt Lake County</i>	<i>Cost Maricopa County</i>
Amitriptyline, 50 mg tab	\$ 0.35	\$ 0.25
Bupropion, 75 mg tab	\$ 0.36	\$ 0.27
Combivir, 150/200 mg tab	\$ 10.46	\$ 9.97
Depakote, 250 mg tab	\$ 1.19	\$ 0.93
Effexor, 75 mg tab	\$ 1.82	\$ 1.80
Fluoxetine, 20 mg cap	\$ 0.19	\$ 0.14
Fluoxetine, 10 mg cap	\$ 0.58	\$ 0.25
Geodon, 80 mg cap	\$ 4.57	\$ 4.51
Lexapro, 20 mg tab	\$ 2.39	\$ 2.29
Paroxetine, 40 mg tab	\$ 1.79	\$ 0.68
Phenytoin, 100 mg tab	\$ 0.24	\$ 0.25
Prilosec, 20 mg tab	\$ 0.70	\$ 0.62
Risperdal, 4 mg tab	\$ 7.95	\$ 8.18
Risperdal, 3 mg tab	\$ 6.01	\$ 6.03
Seroquel, 300 mg tab	\$ 6.85	\$ 6.82
Truvada, 200-300 mg tab	\$ 22.97	\$ 22.97
Zoloft, 100 mg tab	\$ 2.65	\$ 2.60
Zyprexa, 15 mg tab	\$ 13.11	\$ 13.11

Table 7. Prices include dispensing fees of \$3.40 for both counties. Inclusion of this fee causes the variability in prices between Salt Lake and Maricopa.

Any survey is likely to be subjected to scrutiny because of assumptions made and variability of factors within the data itself. The Pharmaceutical Contractor provided us a spreadsheet showing that prices between Salt Lake and Maricopa Counties were identical when the \$3.40 dispensing fee was removed. We recalculated Salt Lake County's price data by removing this fee, results of which are shown in Appendix E. Our recalculations were the same, or nearly so, to the Pharmaceutical Contractor's, except for Fluoxetine, both 20 and 10 mg, and Paroxetine, 40 mg, all three of which were higher priced, based on our calculations from the October 2005 invoice, than data provided by the Pharmaceutical Contractor on their spreadsheet. They stated the following: "Under the previous contract we had Fluoxetine locked in at a reduced price much lower than our contracted bid rate, so we actually undercharged slc for years, when the new contract was implemented our new contract rate was lower however the previous special pricing was still incorrectly locked in. This has been corrected."

Maricopa County's data was reported to us by jail personnel at Maricopa County and included the \$3.40 dispensing fee. Therefore, for comparison purposes in Table 7, we showed both Counties with dispensing fees included. As already noted, inclusion of this fee will create variability in prices. However, we believe that prices in most, if not all instances were identical.

Salt Lake County compared favorably to most other counties surveyed, except for the three that qualified for 340B pricing, and in fact posted lower prices per pill in many instances. Two examples of higher prices at Salt Lake County were

Fluoxetine 10 mg tab, where Salt Lake's price exceeded that of 16 other counties, and Paroxetine 40 mg tab, where 11 other counties had prices lower than Salt Lake. Price-per-pill of Fluoxetine to Salt Lake County varied with most shipments in September 2005, with one being as much as \$1.60 per-pill before finally settling at \$0.45 in later shipments. Comparison between Paroxetine 40 mg and Fluoxetine 10 mg are shown in Table 8 on page 32. See Appendix E for complete results of the survey.

Prices for Salt Lake County in Table 8 are shown with the \$3.40 dispensing fee removed. Prices for some other counties likely included overhead or dispensing fees, notably Utah, DuPage, Maricopa, Jefferson, and Franklin Counties. Therefore, comparability of these counties to Salt Lake County, or other counties where such fees are not included, is not assured. The purpose of the survey was to determine the accuracy of information presented to us that prices at the Salt Lake County Jail were significantly higher than other jails on a few selected medications. In an effort to make this determination, we called other jails to request their prices on two of the medications shown to us as higher priced, Amitriptyline 50 mg tab, and Fluoxetine, 10 mg tab, and included 18 other medications of our own selection. We confirmed the assertion of higher pricing on Fluoxetine 10 mg tab, but not the Amitriptyline 50 mg tab. No two counties are alike, and various factors will be involved in the pricing of medications. However, the survey did achieve the results for which we were seeking, and showed that Salt Lake County, with the exception of Fluoxetine 10 mg,, Fluoxetine 20 mg and Paroxetine 40 mg,, had prices lower or the same than the majority of respondents

<i>Cost of Paroxetine and Fluoxetine Salt Lake County (Oct. 2005) Compared to Respondent Counties (Jan/Feb. 2006)</i>		
<i>Jail</i>	<i>Paroxetine 40 mg tab Average Cost</i>	<i>Fluoxetine 10 mg Average Cost</i>
Bernalillo County, NM	\$ 0.52	\$ 0.03
Bexar County, TX	\$ 0.39	\$ 0.02
Broward County, FL	\$ 1.48	\$ 0.10
Contra Costa County, CA	\$ 0.60	\$ 0.06
Cuyahoga County, OH	\$ 0.55	\$ 0.03
Denver County, CO	\$ 0.39	\$ 0.02
DuPage County, IL	\$ 1.83	\$ 0.95
Franklin County, OH	\$ 1.60	\$ 0.26
Harris County, TX	\$ 1.63	Not used
Hennepin County, MN	\$ 0.39	\$ 0.02
Jefferson County, KY	Not used	Not used
King County, WA	\$ 0.47	\$ 0.03
Maricopa County, AZ	\$ 0.68	\$ 0.25
Orange County, CA	\$ 2.12	\$ 0.03
Orange County, FL	\$ 2.93	\$ 0.04
Pinellas County, FL	\$ 0.59	\$ 0.04
<i>Salt Lake County, UT</i>	<i>\$ 1.32</i>	<i>\$ 0.41</i>
San Bernardino County, CA	\$ 0.49	\$ 0.25
San Diego County, CA	\$ 1.94	\$ 0.09
Utah County, UT	\$ 1.72	Not used
Northeastern County	\$ 0.65	\$ 0.06

Table 8. *Costs for Paroxetine were lower in 11 and higher in 8 cases than Salt Lake. However, Fluoxetine was higher than all counties except one.*

The cost of Fluoxetine generally ranged from \$.02 per pill to \$0.26 per pill compared to Salt Lake's \$.41 per pill. In the six separate months selected for testing, December of 2001 through December 2005 and March 2006, Fluoxetine 10 mg was only prescribed 19 times, an average of 3 times per month. Therefore, even though its per-unit cost was high, its overall impact on expenditures was not significant. Table 9 on page 33 shows that costs to the Jail of these two medications decreased in 2006.

Price Change of Paroxetine and Fluoxetine Dispensing Fee Included		
	<i>Paroxetine 40 mg tablet</i>	<i>Fluoxetine 10 mg tablet</i>
December 2001	Not used	Not used
December 2002	Not used	\$ 0.58
December 2003	\$ 1.83	Not used
December 2004	\$ 1.83	\$ 0.58
December 2005	\$ 0.88	\$ 0.52
March 2006	\$ 0.88	\$ 0.24

Table 9. *Paroxetine and Fluoxetine costs decreased in 2006 under the new contract terms.*

Three of the jails in the survey, as follows, had access to a special Federal Government pricing program, called 340B, resulting in significantly lower prices.

- Denver, CO
- Bexar, TX
- Hennepin, MN

Salt Lake's prices generally were lower than the rest of the jails in the survey.

** 340B Drug Pricing Program was established through the Veterans Health Care Act of 1991. Section 340B of the Public Health Service Act provides discounts on outpatient drug purchases for eligible "covered entities" similar to the Medicaid discounts mandated by the federal government in 1990. The program enables disproportionate share hospitals, community health centers, clinics and other safety net providers to purchase outpatient pharmaceuticals at discounted pricing, thereby expanding access to care to low-income and vulnerable segments of the population.

Jails become eligible for 340B pricing by being affiliated with a covered entity that qualifies for this discount pricing. Covered entities include disproportionate share hospitals, or DSHs, federally qualified health centers (including community health clinics, hemophilia clinics, sexually transmitted disease clinics, Ryan White clinics, and American Indian and Hawaiian treatment centers), tuberculosis clinics and state-operated AIDS drug assistance program.

We contacted the Pharmacist at the Denver County Jail to determine how they qualified for 340B pricing and were informed that they affiliate with the nearby hospital and in fact, all of the medical employees at the Jail are employees of the hospital. All medications are obtained from the hospital; thus, the Jail is eligible for the 340B pricing. The Pharmacist indicated that the process to receive eligibility took at least a year and was completed by the legal department of the Denver Health and Hospital Authority. The Pharmaceutical Contractor has noted that "the fee to administer the 340B program is expensive."

Six of the jails surveyed have an in-house pharmacy:

- Bexar
- Cuyahoga
- Harris
- Orange, CA
- San Bernardino
- Orange, FL (moved to an in-house pharmacy in November of 2006)

The rest use third party vendors and dispense medications in blister packs, or a combination of blister packs and bottles, and one exclusively used bottles without any blister packs. Jails that contract with a third-party pharmacy provider are as follows:

- Salt Lake
- Utah
- Franklin
- Maricopa
- Bernalillo
- King
- Jefferson
- San Diego
- Broward
- Pinellas
- Contra Costa
- DuPage
- Northeastern County

In-house pharmacies include an on-site staff of pharmacists while those that contract with an outside vendor likely do not. Appendix E identifies entities that have in-house pharmacies and those that use third-party vendors.

1.4 RECOMMENDATION:

We recommend that jail administration monitor medications for any whose prices may appear to be excessive, and that any such discoveries be reported to and discussed with the Pharmaceutical Contractor.

2.0 Overall Expenditures on Medications.

Overall expenditures for medications are easily derived from the County's general ledger system, Advantage Financial (AFIN), where there is a separate line item under object code 4580 for "in-custody pharmaceuticals." All payments to the Pharmaceutical Contractor are included in this line item. The time periods during which various pharmaceutical vendors were under contract or agreement with the County can also be determined by examining payment dates. For example, payments to the current Pharmaceutical Contractor began in 1998. In this section of the report, we analyze various factors that influenced overall

medication costs, as discussed in the following findings:

- Expenditures on Jail medications increased 550% over the past 10 years.
- Psychotropic medications accounted for over half of all medication costs.
- A 36% increase in costs occurred in 2004 and was attributed to increased use of psychotropic medications for treatment of depression and mental illness.
- Coupons valued at over \$90,000 were received by the Health Administrator but only \$7,640 could be redeemed.
- Invoices were paid at face value without any price verification.

2.1 Expenditures on Jail Medications increased 550% over the past 10 years.

Total pharmaceutical expenditures increased 116 percent in 2000 alone, from \$354,636 in 1999 to \$765,044 in 2000. Expenditures peaked in 2004 at \$1,071,824.

Expenditures on Jail pharmaceuticals remained relatively even throughout most of the 1990s but increased substantially in 1999 and 2000. Costs were \$190,308 in 1998, \$354,636 in 1999, and \$765,044 in 2000, an increase of 86 percent in 1999 over the previous year, and another 116 percent in 2000 over 1999. The two-year period from 1999 to 2000 alone accounted for a 300 percent increase. Costs peaked in 2004 at \$1,071,824, and then settled at \$957,335 in 2005. The trend in pharmaceutical expenditures over the 10-year period starting in 1996 is shown in Figure 3 below.

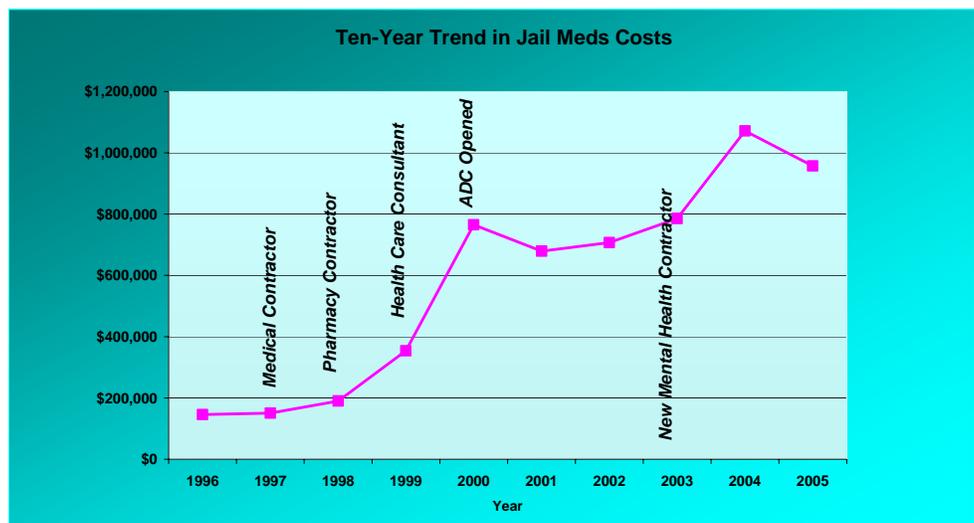


Figure 3. *Pharmaceutical costs showed the most significant increases in the late 1990s.*

See Appendix F for a breakdown of expenditures for years found in Figure 3. The Pharmaceutical Contractor provided us with a list of the top 100 medications by price, quantity and overall expense for 2004 and 2005. (See Appendix G for a side-by-side comparison of identical medications prescribed in these years, Appendix H for a sorted list of per-pill or per-dose price, Appendix I for a ranking by total expense and Appendix J for a sorted list by quantity dispensed).

The 10-year trend in medication costs based on an “average daily inmate population” by year is shown in Table 10 below. The table shows that the rate has been steadily increasing over the 10-year period from 1996 through 2005.

10-Year Trend Cost per Average Daily Inmate Population				
<i>Year</i>	<i>Costs</i>	<i>Average Daily Population</i>	<i>Cost Per Avg. Daily Population</i>	<i>Percentage Change</i>
1996	\$146,374	1,125	\$130.11	Base Year
1997	\$150,442	1,232	\$122.11	(6.15)%
1998	\$190,308	1,362	\$139.73	14.43%
1999	\$354,636	1,424	\$249.04	78.23%
2000	\$765,044	1,898	\$403.08	61.85%
2001	\$679,415	1,950	\$348.42	(13.56)%
2002	\$706,892	1,942	\$364.00	4.47%
2003	\$785,601	2,109	\$372.50	2.33%
2004	\$1,071,824	2,067	\$518.54	39.21%
2005	\$957,335	2,122	\$451.15	(13.00)%

Table 10. The ratio of cost per annual average daily inmate population peaked in 2004 at \$519.

Large Cost Increases in 1999 and 2000

Various factors led to increased expenditures in 1999 and 2000, including the introduction to the market and use of new and higher priced medications

Since documentation from the 1990s, including information from individual invoices, has been discarded and is no longer available, detailed analysis of this period, including review of cost data, was not possible. Moreover, the jail cycled through four other pharmaceutical vendors in the 1990s before settling on the current Pharmaceutical Contractor. With the change in vendors and the passing of time, records, invoices and other documentation became increasingly scarce. However, we concluded from our analysis that several events during this period influenced cost increases. Their respective impacts could not be fully ascertained without detailed cost data. However, taken together these events may or may not have been associated causal factors helping drive the increases in expenditures on inmate medications.

1. New pharmaceutical contractor was engaged.
2. Outsourced medical contractor, health care consultant, and hospital services were initiated or expanded.
3. New Adult Detention Center was opened.
4. New generation of medications was introduced to the market.
5. Increased spending on medications nationwide.

New Pharmaceutical Contractor's Engagement

Data was not available to determine whether the new Pharmaceutical Contractor charged prices that were higher than those of previous vendors. During this transition, there could have been increases in the number of prescriptions filled, or changes in prices per pill which could have influenced total expenditures.

The current Pharmaceutical Contractor began operations at the Jail under an exigency agreement late in 1998. Looking back to 1998, one of the major initiatives of the Pharmaceutical Contractor was a mail-order system, with packaging of pills in blister packs. This new system was in direct contrast to the previous in-Jail pharmacy staffed by pharmacists, who ordered and purchased all medications directly, stocked them on shelves in bottles, and dispensed them one dose at a time to each inmate. This process resulted in discord among the staff and inefficiency in the delivery of medications to inmates. The Medical Contractor, engaged in 1997, had observed a lack of efficiency in the medication delivery system. Resolving these problems led to the exigency contract with the current Pharmaceutical Contractor in late 1998.

In March 2000, the Pharmaceutical Contractor entered into a regular County contract following a formal bid process as prescribed by County Ordinance. At the end of that contract period, the Pharmaceutical Contractor entered into a new contract with the County in November 2005 that, again, followed a formal bid process. A committee reviewed and evaluated proposals from prospective vendors that submitted bids to the County and selected the current Pharmaceutical Contractor. As part of this process, the Sheriff's fiscal managers compared prices of certain selected medications submitted by each bidder in response to the request for proposal (RFP) that preceded this contract.

The comparison showed that the Pharmaceutical Contractor's prices were lower than other competitors, except one, a bidder who did not offer refunds for unused and returned medications. The Pharmaceutical Contractor was selected based on their overall competitive pricing structure, particularly taking into account the refunds allowable for returned medications.

Analysis of the relative cost of an on-site pharmacy versus a third-party pharmacy in a mail-order model was beyond the scope of this audit. However, cost savings likely accrued under the new model by eliminating the pharmacist staff, replacing them with less costly pharmacy techs, and the need for fewer nurses to administer blister packs as opposed to individual doses. Blister pack cards, with inmate names imprinted, create efficiencies by reducing the time required to dispense medications to inmates. The name-imprinted cards also eliminate errors by helping ensure that medications are administered to the right person.

Finally, according to several sources, the current Pharmaceutical Contractor is the largest pharmacy-services provider to correctional facilities in the country. Their size and buying power should be advantageous to the Jail, enabling medications to be purchased at more economical prices.

The Contractor is the largest provider of pharmacy services to correctional institutions

Jail Medications

Outsourced Services – Medical Contractor, Health Care Consultant, Hospitals, and Other Medical Services Providers

A management decision taken by the Sheriff concurrent with the rise in pharmaceutical costs was the engagement of a new Medical Contractor in 1997. The contracting company was headed by a licensed M.D. who in turn subcontracted a staff of other physicians of varying specialties.

The Medical Contractor roles and responsibilities were mandated in his contract, which required his active participation in formulation and monitoring of health care services. Section B, paragraph 1, of the original agreement, signed June 11, 1997, states in part, that the following services are to be provided:

The Medical Contractor has played a significant role in formulation of services at the Jail.

- a. Assure the quality and accessibility of all health services (i.e., dental, medical, pharmaceutical and psychiatric) to jail prisoners...
- b. Review and monitor the quality of all health services provided in the jail.
- c. ...implement the philosophy and objectives of the health services unit...
- d. Advise the Sheriff (or his designee) at least quarterly of the status of health care services at the jail.

Thus, Jail administrators looked to the Medical Contractor for advice on delivery of care improvements. He undertook an effort to increase the level of health care and improve the breadth and quality of services offered.

To marshal further resources for medical delivery improvements, during 1999, the Jail contracted with a Health Care Consultant to provide advice and direction on its delivery of services. The consultant's contract required that they:

The health care consultant of the late 1990s and early part of the current decade provided advice on health care delivery.

- "Recommend a health services plan which may include contracting for some or all of the health services," and
- "Develop an appropriate standard of health care for County's jails consistent with NCCHC standards..."

The program enhancements recommended by the consultant were likely an influencing factor on the increased use and/or composition of inmate medications. Likewise, other standard of care improvements or upgrades, and the resulting changes to comply with NCCHC standards came with associated costs. Some initiatives were aimed at reducing costs. For example, the consultant developed and implemented a protocol to prevent over prescribing of anti-depressant drugs. The success in achieving a higher level of service was reflected in the Jail's designation as the 2001 Facility of the Year by the National Commission on Correctional Health Care (NCCHC). The contract with the Health Care Consultant expired in 2002

In the context of the initiatives described above, we concluded that pharmaceutical cost increases did not occur in isolation. The increases were part of an overall upswing in spending for medical services, including those related to hospitals, the Medical Contractor, Mental Health Contractor, Health Care Consultant, and fees from other medical providers. Ultimately, Jail

administrators, including the Captain over medical services and the Jail Commander, made decisions as to the level of services being offered and costs that would be incurred. Increases in medical costs associated with outsourced hospitals, contractors and other medical providers are shown in Table 11 below.

8-Year Jail Medical Costs Outsourced Services – Hospitals, Contractors and Other Medical Services Providers		
<i>Year</i>	<i>Cost</i>	<i>Percent Change</i>
1998	\$1,097,094	Base Year
1999	\$1,947,238	77.49%
2000	\$2,140,924	9.95%
2001	\$2,599,843	21.44%
2002	\$2,553,216	(1.79)%
2003	\$3,074,806	20.43%
2004	\$3,763,621	22.40%
2005	\$4,122,661	9.54%

Table 11. *The significant increase in 1999 in costs for outside hospitals, consultants and contractors was partly due to the contract with the new consultant.*

Costs in these categories increased 276 percent since 1998. These costs do not include salaries of County employees, such as nurses and pharmacy techs. Expenses related to the Medical Contractor and Health Care Consultant are shown in Table 12 below. Analysis in this table starts in 1998, the first full year of the current Medical Contractor's contract.

Medical Contractor and Health Care Consultant Costs				
<i>Year</i>	<i>Med Contractor</i>	<i>Percent Change</i>	<i>Health Care Consultant</i>	<i>Percent Change</i>
1998	\$428,617			
1999	\$476,939	11.27%	\$75,961	
2000	\$588,328	23.35%	\$136,989	80.34%
2001	\$669,111	13.73%	\$108,446	(20.84)%
2002	\$669,472	0.05%	\$40,222	(62.91)%
2003	\$795,236	18.79%	\$13,004	(67.67)%
2004	\$824,086	3.63%		
2005	\$871,095	5.70%		
2006	\$908,313	4.27%		
Totals	\$6,231,197		\$374,622	

Table 12. *Medical Contractor and Health Care Consultant costs since 1998.*

New Adult Detention Center

The opening of the new Adult Detention Center in January 2000 was followed by a 33 percent increase in the average daily Jail population. Added space and a

Average daily jail population increased 33 percent following the opening of the new Jail in 2000.

greater number of cells allowed for more offenders to be booked into Jail. Law enforcement and criminal justice officials saw the opportunity that this added space created and took advantage. The most dramatic increase in inmate population levels occurred when the average daily population grew from 1,424 in 1999 to 1,898 during 2000 (33%).

This dramatic increase created greater demands for medical services, including medications, resulting in higher overall costs. Figure 4 below shows the increase in inmate population over the past 20 years. The average daily population was only 557 in 1986, however, by 2005 it had increased to 2,122, an increase of 281 percent. Included in this data are Oxbow Jail's population figures. This minimum-security facility opened in 1992 and closed in 2002. The large population increase in 2000, concurrent with the opening of the new Adult Detention Center is clearly seen on the graph.

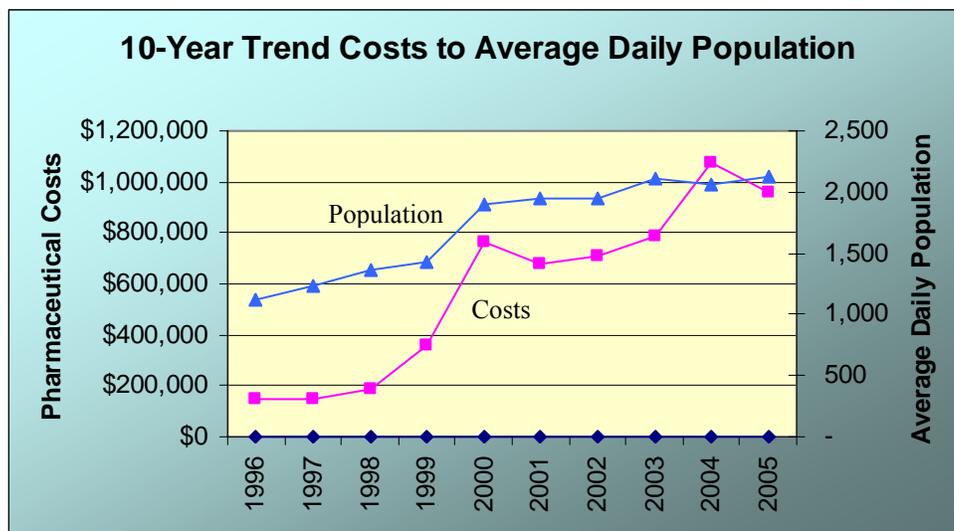


Figure 4. A significant increase in costs in 2000 coincided with a large increase in Jail population with the opening of the Adult Detention Center that same year.

The Adult Detention Center was designed with a Jail infirmary or hospital unit where inmates with certain medical conditions could be treated without transporting them to an outside hospital. Opening the hospital unit was anticipated in 2000 and resulted in a ramping up of medical staff, including the hiring of additional nurses. The Internal Audit Division issued a report, *A Performance Audit of the Salt Lake County Jail*, dated December 2001. One of the report's key findings was that Jail health-care costs of \$13.83 per inmate-day, were the highest among a group of eight peer-county jails across the country:

1. Bexar, TX \$6.14
2. Pinellas, FL \$6.49
3. Franklin, OH \$4.12
4. Pierce, WA \$8.34
5. El Paso, TX \$4.32
6. Denver, CO \$10.09

Also, at the time of the 2001 audit report the Jail had a staff of 68 full-time equivalent registered nurses, which were adding significantly to the medical cost per inmate-day. The County Council took action on this audit report and cut a substantial number of the nursing staff and decided not to open the hospital unit of the jail. To date, this unit has never been opened, nor has an updated analysis been performed of the benefits versus the cost of staffing and operating this unit.

In light of the ever increasing trend in Jail medical costs, an updated analysis should be performed of the cost effectiveness of opening the medical unit.

New Drugs on the Market

New antidepressant and antipsychotic medications with fewer adverse side effects but higher costs were introduced to the market.

Another contributing factor to higher pharmaceutical costs was the introduction in the 1990s of “atypical” antipsychotic drugs and new generation antidepressants, a class called “*selective serotonin reuptake inhibitors*,” or SSRIs, that replaced older “tri-cyclic” antidepressants. These new “psych med” drugs had fewer adverse side effects, were safer to use, and in the case of the antipsychotic drugs, actually led to improved cognitive function for people experiencing various types of psychoses. However, this class of drug, for example, Prozac, Paxil, Lexapro and Wellbutrin was more expensive and improved effectiveness came at an increased cost.

In addition to psych meds, new drugs for treating HIV infection, including the so-called “triple cocktail,” and new and more effective antibiotics were introduced to the market. Again, data scarcity from the early-to-mid 1990s precluded our obtaining a specific date for when these medications were introduced at the Jail, and the timing and immediate impact their introduction had on costs. However, we did ascertain through independent research that the dates when many of these medications came to market during the 1990’s, occurred just prior to the time the Jail experienced significant cost increases in 1999 and 2000.

Table 13 on page 42 shows the year that 17 selected medications were introduced to the market, and the amount the Jail spent on these in 2005. They are ranked by total expenditures. In its reports, the contractor lists drugs by name and dosage, such as 10 or 20 milligrams (Mg), and thus some drugs with the same name but different doses may be listed several times. However, for purposes of Table 13, all identical drugs of differing doses are combined under the same name. The table shows that drugs on which the Jail spends the most money were, for the most part, introduced within the last 10 years, Risperdal being the notable exception.

Year that Selected Meds Introduced to Market Total Med Costs for 2005 - \$957,335					
Name	Year	Type	Expended 2005	% 2005 Costs	Per Pill
Risperdal	1994	*antipsychotic	\$173,156	18.09%	\$8.30
**Seroquel	1997	*antipsychotic	\$86,933	9.08%	\$7.08
**Geodon	2001	*antipsychotic	\$79,676	8.32%	\$4.78
Valproic Acid	1979	seizure	\$41,784	4.36%	\$0.41
Lexapro	2002	*antidepressant	\$26,065	2.72%	\$2.28
Prilosec	1989	heartburn	\$25,556	2.67%	\$0.60
**Combivir	1997	HIV	\$24,947	2.61%	\$10.63
**Abilify	2002	*antipsychotic	\$23,730	2.48%	\$13.98
Zoloft	1996	*antidepressant	\$21,085	2.20%	\$2.59
Wellbutrin	1996	*antidepressant	\$17,059	1.78%	\$0.45
Prozac	1988	antidepressant	\$15,699	1.64%	\$0.46
**Levaquin	1997	antibiotic	\$15,081	1.58%	\$10.20
Zocor	1992	cholesterol	\$14,243	1.49%	\$4.30
**Zyvox	2000	antibiotic	\$7,480	0.78%	\$54.20
Rocephin	1982	antibiotic	\$5,494	0.67%	\$43.96
**Viread	2002	HIV	\$4,041	0.42%	\$14.18
**Lipitor	1997	cholesterol	\$2,847	0.30%	\$3.41

Table 13. *Seven of top-10 drugs for which expenditures were made in 2005 were psych medications. ** Drugs introduced after the mid-1990's

Increased National Spending on Medication

As noted in section 1.1, the Consumer Price Index (CPI) – Medical Care Commodities has edged up annually at an average of 3.06 percent from 1996 to 2005. The cumulative increase was 27.57 percent from 1996 to 2005. Likewise, the Producer Price Index (PPI) – Pharmaceutical Preparations rose at a slightly higher average annual increase of 4.58% over the same period. From these trends, we concluded that only a portion of increased medication costs can be attributed to the general inflation in medical commodities and pharmaceuticals.

In addition to general cost inflation overall, nationwide pharmaceutical spending has increased from year to year. Statistics from the Department of Health and Human Services (HHS) indicate that annual percentage increases in the last 15 years peaked at 18.2 percent and 15.4 percent, in 1999 and 2000, respectively, which are coincidentally the years in which the most significant increases occurred at the Jail. Spending increases have tapered off in recent years as shown by the increase in 2004 of only 8.2 percent. Figure 5 on page 43 shows average nationwide percentage increases on spending for prescription medications in each year from 1990 through 2004.

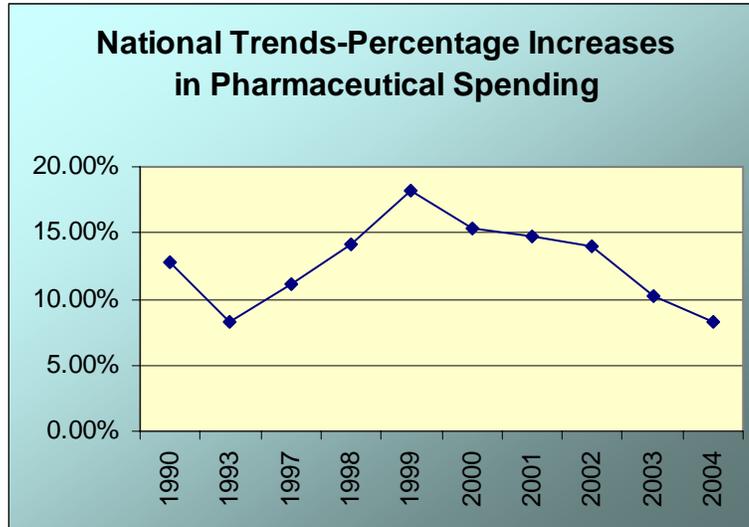


Figure 5. Nationally, pharmaceutical spending increased significantly in the late 1990s, just as it did at the Jail, though the Jail's rise was much steeper.

Drilling slightly deeper into cost increases, the Bureau of Labor Statistics' Producer Price Index (PPI) - Pharmaceutical Preparations includes a specific category for price changes in psychotropic medications at the producer-to-wholesaler stage. Table 14 below shows that the index increased nearly 200 percent in 1998, a change that closely shadows the dramatic increases in Jail pharmaceutical expenditures of 86 percent in 1999 and 116 percent in 2000. The data below is categorized as "psychotherapeutics," which *includes antipsychotic* medications but *excludes antidepressants*. As discussed in Section 2.3 of this report, psychotropic medications, including antipsychotics, accounted for over half of all medication costs.

Year	Index Amt	% Change
1996	504.3	
1997	516.0	2.32%
1998	1527.3	195.99%
1999	1736.6	13.70%
2000	1745.0	0.48%
2001	1793.6	2.79%
2002	1881.5	4.90%
2003	2046.8	8.79%
2004	2158.8	5.47%
2005	2291.6	6.15%

Table 14. Psych med costs from Producer to wholesaler increased nearly 200% in 1998.
Source: Bureau of Labor Statistics Producer Price Index.

The Jail's expenditures on medications followed national trends of continually rising expenditures, though at a greater rate in most years than national trends. Therefore, national drug expenditure trends and inflationary pressures explain only a part of the Jail's overall cost increases. The remainder of the explanation centers around the introduction of new and more expensive drugs, a more aggressive and arguably more responsible clinical approach to treating inmate health issues, and increases in Jail population. Jail administration should be aware of these cost trends, continue to monitor and discuss them in Pharmacy and Therapeutics Committee meetings and determine ways in which medications can more efficiently and effectively be administered.

2.2 RECOMMENDATION:

We recommend that the Pharmacy and Therapeutics Committee prepare and submit an annual report to the Sheriff explaining overall trends in pharmaceutical costs, and focusing on such factors as introduction of new medications, addressing price increases from the contractor, changes in Jail population, including new or different inmate medical needs that arose during the year.

2.3 Psychotropic medications accounted for over half of all medication costs.

About 20 to 25 percent of the overall inmate population is on a psychotropic medication of some kind.

To more closely examine the trend in the use of psychotropic medications, we examined a 17-month period – January 2005 through May 2006. Our analysis disclosed that well over 50 percent of all pharmaceutical expenditures are for psychotropic medications (psych meds). These are drugs used to treat depression, anxiety, and psychoses such as bipolar disorder and schizophrenia. Approximately half of all inmates are on medications of any kind, and generally about half of the medicated population is prescribed psych meds. Thus, around 25 percent of all inmates are being prescribed psych meds.

A major contributing factor to the prescription and use of psych meds at the Jail is the fact that, the Jail is, for all practical purposes, an extension of the community mental health system. The Mental Health Manager, in cooperation with Jail administrators, has taken pro-active measures to better manage incarceration of the mentally ill by implementing a targeted program for “discharge planning.” In addition, the recently initiated Mental Health Court provides defendants with supervised release from jail contingent on compliance with court-mandated requirements.

Specifics of each of these issues are discussed below in the following subsections.

1. Prescription of Psychotropic Medications Relative to All Prescribed Medications
2. Mental Health in the Correctional System

3. Discharge Planning
4. Mental Health Court

Prescription of Psychotropic Medications Relative to All Prescribed Medications

Table 15 below shows the 17-month comparison of inmates on psych meds to inmates on medications of any kind. It also compares psych med costs to overall medication costs. It shows that psych meds comprise a higher percentage of pharmaceutical costs than the percentage of inmates on psych meds to all medications in general.

17-Month Examination Psych Meds Compared to Total Meds						
Month	Inmates on Any Meds	Inmates on Psych Meds	% on Psych to all Meds	All Med Costs	Psych Med Costs	Psych Costs to All
Jan 05	1,020	487	47.75%	\$81,724	\$52,943	64.78%
Feb 05	1,023	479	46.82%	\$72,807	\$48,254	66.28%
Mar 05	1,085	507	46.73%	\$78,175	\$53,284	68.16%
Apr 05	1,022	463	45.30%	\$86,942	\$60,845	69.98%
May 05	975	438	44.92%	\$115,705	\$50,479	43.63%
Jun 05	998	467	46.79%	\$82,144	\$68,579	83.49%
Jul 05	998	436	43.69%	\$79,538	\$57,755	72.61%
Aug 05	973	435	44.71%	\$72,182	\$54,507	75.51%
Sep 05	955	418	43.77%	\$66,666	\$40,721	61.08%
Oct 05	974	459	47.13%	\$42,660	\$44,504	104.32%
Nov 05	952	433	45.48%	\$82,904	\$47,994	57.89%
Dec 05	876	392	44.75%	\$74,618	\$40,082	53.72%
Jan 06	919	420	45.70%	\$70,478	\$40,872	57.99%
Feb 06	902	403	44.68%	\$81,174	\$45,723	56.33%
Mar 06	1,006	429	42.64%	\$73,183	\$43,366	59.26%
Apr 06	795	383	48.18%	\$69,656	\$35,985	51.66%
May 06	857	407	47.49%	\$75,393	\$40,033	53.10%
Avg Percentage			45.68%			64.69%
Avg Cost Per Inmate				\$79.97	\$110.77	

Table 15. Psych meds have averaged 64.69% of total medications costs for the period noted above, even though on average 45.68% of inmates on medications were on psych meds.

Psychotropic medications are the most expensive type of medication at the jail. Expenditures are higher than such drug types as antibiotic, HIV, seizure and gastrointestinal medications. The relatively higher cost per dose, coupled with the high percentage of inmates for which these drugs are prescribed, explains why these drugs are consuming well over half of all medication costs, month to month over the period studied. For example, psych med costs were 83.49 percent of the total in June, 2005, while the percentage of inmates on psych meds to inmates on any medications was a much lower 46.79 percent.

Table 15 indicates that the percentage of psych-med cost to total costs was

typically 10 to 20 percent higher than the percentage of inmates using psych meds to all inmates using any medication. Clearly then, this translates to a higher per-inmate cost for psych meds. For example, looking at June 2005, 998 inmates were using medications of any type for a cost per inmate of \$82.30 (\$82,144/998), where in contrast, during the same month, \$146.85 was spent per inmate on psych meds (\$68,579/467).

From January 2005 through May 2006, \$80 was spent per inmate among the 998 inmates on medications of any kind, and \$111 per inmate was spent on psychotropic medications among those using this group of medications

During the entire 17 month period noted in Table 15, an average \$80 per month was spent per inmate among those using medications, compared to \$111 per month among psych med users only, resulting in expenditures for psych meds that on average were 39 percent greater than medications as a whole. Note that in October 2005, psych med costs are 104.32 percent of total medication costs, representing an error in contractor data. See section 5.2 for further discussion on data accuracy.

Table 16 below compares the number of psych med prescriptions to all prescriptions ordered. Regarding the number of inmates on psych meds, the percentage of prescriptions is smaller than the percentage of costs (see Table 14 above). While Table 16 shows that 30 to 34 percent of prescriptions were psych med-related, cost percentages were significantly greater.

Percentage of Prescriptions Psych Meds to Total Meds-Related			
<i>Month</i>	<i>Total All Med Rx's Ordered</i>	<i>Total Psych Med Rx's Ordered</i>	<i>% Psych Rx's to All Med Rx's</i>
Jan 05	4,045	1,388	34.31%
Feb 05	3,913	1,274	32.56%
Mar 05	4,179	1,362	32.59%
Apr 05	4,219	1,415	33.54%
May 05	3,857	1,168	30.28%
Jun 05	4,560	1,505	33.00%
Jul 05	3,847	1,285	33.40%
Aug 05	3,984	1,332	33.43%
Sep 05	3,967	1,292	32.57%
Oct 05	4,036	1,331	32.98%
Nov 05	4,325	1,403	32.44%
Dec 05	4,109	1,255	30.54%
Jan 06	4,033	1,285	31.86%
Feb 06	3,888	1,227	31.56%
Mar 06	4,235	1,278	30.18%
Apr 06	3,662	1,132	30.91%
May 06	4,043	1,274	31.51%
Average	4,053	1,306	32.22%

Table 16. An average 32.22% of prescriptions were psych-related for the period noted above, compared to average cost percentage of 64.69% as shown in Table 15 above.

Note: See Appendix K for a listing of psych-med costs reported by the Contractor, compared to total medications costs from December 2000 through May 2006, and also a listing of number of prescriptions issued.

Mental Health in the Correctional System

The Jail has two separate sections for incarceration of the mentally ill, one an 18-bed acute unit, and the other a 48-bed sub-acute unit. Those in the acute unit typically display severe psychoses, including bipolar disorder or schizophrenia, and are likely considered severely and persistently mentally ill (SPMI). However, inmates in the mental health units are not the only inmates prescribed psych meds. Those in the general Jail population can be and are prescribed psych meds as needed.

Inmates designated as mentally ill are assigned an *Acuity Level of 1, 2, 3, or 4* by a psychiatrist or other mental health worker to determine how soon the inmate will be visited and assessed by a psychiatrist or mental health worker. For example:

- *Acuity Level 1* - a suicide-prone inmate would dictate the inmate being sent immediately to the acute unit.
- *Acuity Level 2* - a visit and follow up assessment must be made within 24 hours,
- *Acuity Level 3* – a visit and follow up assessment must be made within 7 days.
- *Acuity Level 4* – the inmate will be visited and assessed as soon as time and resources allow.

Two psychiatrists and three advanced practical registered nurses (APRN) are on staff within the mental health unit. Either a psychiatrist or APRN is on call 24 hours a day, 7 days a week, but neither of these professionals is on-site at all times. A psychiatrist or APRN visits each inmate in the acute unit at least once a day and in the sub-acute unit at least once a week.

Psychiatrists, other physicians, APRNs, physicians’ assistants and nurse practitioners can write prescriptions.

Both psychiatrists and APRNs are authorized to write prescriptions. Prescriptions for psych meds are written not only by psychiatrists and APRNs, but also by general medical doctors, physicians’ assistants and nurse practitioners. Staff members in mental health units also include psychologists and social workers who provide counseling, education and evaluation for the mentally ill, and serve in administrative functions, but they do not prescribe medications.

The Jail contracts with an outside mental health provider that in turn hires all mental health staff including psychiatrists, APRNs, psychologists and social workers. The current Mental Health Contractor is based in Vienna, Virginia and took over operations at the Jail in November 2003. The Mental Health Contractor’s representative in charge at the Jail is the Mental Health Manager.

The Mental Health Contractor issues a monthly statistical report of its Jail operations that includes data on numbers and types of mentally ill patients and the frequency with which a health care professional visited them, including visits by a professional that can prescribe medications, or “prescriber.” The report includes psych med costs for the month compared to the previous month.

The Mental Health Contractor has hired a pharmacist at its corporate office in Virginia to monitor pharmaceutical costs system-wide.

The Mental Health Manager has been proactive in his efforts to reduce costs by providing pharmaceutical coupons to Jail. Though he has collected and referred numerous coupons, full credit for the coupons has not been realized by the Jail. (See Section 2.7 for a further discussion of coupons).

Also, the Mental Health Contractor's parent company recently hired a pharmacist at the corporate level to actively monitor medication costs and confront pharmaceutical companies about prices that appeared excessive. Several jails within the Mental Health Contractor's system use the same pharmaceutical vendor as Salt Lake County, and the parent company has performed price comparisons among these jails. The Mental Health Manager reported that prices on same-type medications were not consistent from jail to jail, an assertion verified in our own audit research as outlined in Section 1.3 of this report. The Mental Health Manager did not provide any explanation as to the cause of the inconsistencies.

As the above explanation of mental health staffing illustrates, a major contributing factor to the prescription and use of psych meds at the Jail is the fact that the Jail is, for all practical purposes, an extension of the community mental health system. The Jail is a place where the mentally ill receive medications, counseling and education. The Mental Health Manager asserted during our interviews that the Jail is a larger mental health facility than the Utah State Hospital.

An on-going policy debate exists regarding the role correctional institutions should play in the treatment and care of the mentally ill. An individual's mental state may contribute to criminal or offensive behavior. Some "crimes" committed by the mentally ill are misdemeanors, such as indecent exposure or other unusual behavior, but may result in incarceration to remove a nuisance or potential threat from public view. For many mentally-ill individuals jail is a revolving door of incarceration and repeated bookings that can and do occur repeatedly over time.

For a discussion of the mentally ill within the criminal justice system, the Mental Health Manager recommended author Peter Earley's book entitled: *Crazy—A Father's Search Through America's Mental Health Madness*. The author describes his son's mental illness and frustration in being processed through the criminal justice system. Earley also provides observations and analysis of jail operations in Miami-Dade County which has the largest per capita mentally ill population of any metropolitan area in the country.

Discharge Planning

SPMI inmates are given a prescription which may be filled at a pharmacy when they leave the Jail.

In an effort to better manage incarceration of the mentally ill, the Mental Health Manager has implemented a targeted program for "discharge planning." SPMI inmates are provided with referrals to needed resources, including referral to an appointment with a mental health agency, such as Valley Mental Health, and a written prescription for several days' worth of medication which may be filled at a pharmacy.

Jail Medications

For a period of time in 2003 and 2004, mentally-ill inmates were given medications, not just prescriptions, when they were released as part of a program initiated and funded by the County. This practice has since been discontinued and inmates now receive only a written prescription.

In his monthly reports, the Mental Health Manager provides discharge planning statistical data and results. For example, it was reported that in April 2006:

- 41 inmates were released with post-release action plans, of which:
 - 27 were referred to Valley Mental Health,
 - 8 were referred to other community agencies
 - 3 were transported directly to the State Hospital
 - 3 others to the Utah State Prison
- Of the 27 referred to Valley Mental Health:
 - 11 (41 percent) were confirmed to have followed up on their treatment
- Of the 41 released with a post-release action plan, 10 individuals (24 percent) had been re-incarcerated within the next 60 days.

Mental Health Court

The above analysis illustrates that the revolving door to the Jail for the mentally ill can have a significant effect on Jail medication costs. Efforts at reducing recidivism have been undertaken, including alternatives to incarceration such as Mental Health Court.

Mental Health Court provides defendants with supervised release from jail contingent on whether the individual has or can obtain housing. Otherwise they remain in jail, the rationale being that an apartment, house, or shelter provides stability in an individual's life and enables follow up with community agencies. Housing is difficult to obtain and maintain for the severely mentally ill who are usually unemployed and have meager resources to pay rent. Likewise, they often lack the capacity to look for an apartment or manage finances. Many SPMIs are eligible for government entitlement programs, such as Social Security Disability Income (SSDI) and Medicaid, thereby providing sufficient means for a low-income apartment. Case workers with Valley Mental Health work actively to assist individuals in becoming enrolled in SSDI, but success can be illusive and challenging.

Typically, a defendant is referred to Mental Health Court before the case is adjudicated and sentencing pronounced. In other words, the defendant has been charged, but has not entered a plea or gone to trial. Eventually, a plea in abeyance may be entered if the charge is not severe, after which it is dismissed upon successful completion of Mental Health Court. Such a plea would not be allowed on more serious charges, though they would likely be reduced to lesser charges, such as a Class A misdemeanor from what originally would have been a second or third degree felony. Many mentally ill clients also are dealing with

drug abuse issues, though their primary issue must be related to mental health to be referred to the Court.

For SPMIs who qualify and are referred by a judge, the Mental Health Court’s goals are to stabilize the defendant’s symptoms, improve their quality of life, and reduce tendencies toward criminal activity, thus enabling individuals to locate long-term housing and, possibly, gainful employment.

The Jail has a liaison person who works with the Mental Health Court. However, it is the defendant’s attorney who initially approaches the judge in the court of original jurisdiction and requests that the case be moved to Mental Health Court. Defendants are evaluated by a social worker in the Public Defender’s Office and professionals at Valley Mental Health for their ability to comply with the requirements of this alternative program. The director of the Forensic Unit at Valley Mental Health is the diagnostic gatekeeper, evaluating and recommending individuals who qualify for the program, with the final decision being made by the District Attorney’s Office. The judge usually concurs with the decision of the Prosecutor and Valley Mental Health. Cases seen in the Mental Health Court are primarily felonies. However, individuals with sex offenses or a pattern of extremely violent crime will usually not be accepted.

Table 17 below is based on data from Valley Mental Health and shows the number of participants in this court each year since its inception in 2001. Operations were underway for only part of years 2001, when the court began, and 2006, up to the time we completed our survey work.

Participants in Mental Health Court						
	2001	2002	2003	2004	2005	2006
Participants	13	44	69	99	116	94
Terminated	1	4	8	11	15	10
% Terminated	7.69%	9.09%	11.59%	11.11%	12.93%	10.64%
Ongoing	12	32	50	77	81	79
% Ongoing	92.31%	72.73%	72.46%	77.78%	69.83%	84.04%
Graduates	0	8	11	11	20	5
% Graduated	0.00%	18.18%	15.94%	11.11%	17.24%	5.32%

Table 17. *Between 10 percent and 20 percent of participants in Mental Health Court graduate from the course.*

Participants in Mental Health Court are required to follow a program of medication and therapy to address their symptoms. They must appear in court once a week, on Monday, to report progress to the Mental Health Court judge. Any deviation from designated treatment plans, for example not taking medications as prescribed, could result in the individual being sent to jail. However, there are graduated sanctions wherein community service is mandated by the court before or in lieu of the individual being sent back to jail.

Valley Mental Health validates the success of the Court with their own statistics indicating a 94 percent reduction in bookings among graduates. This reduction takes into account the period of time before booking, through time spent in court,

Valley Mental Health reported that treatment costs dropped 61 percent after a defendant successfully completed Mental Health Court.

and including the period following successful completion of the Court. Graduates have a 77 percent reduction in average number of days spent in jail. Valley Mental Health reports a 61 percent reduction in treatment costs for graduates, over the time period before booking to post-court graduation.

Most criminal justice experts and mental health care administrators agree that jail is not an appropriate environment to treat the mentally ill. From our review of this incarceration alternative, we recommend that additional ways and means be explored to help SPMI inmates comply with post-release action plans, including attendance at appointments with Valley Mental Health, or other providers, and obtaining prescription medication, and that other appropriate alternatives to incarceration be expanded and additional options explored.

2.4 RECOMMENDATIONS:

2.4.1 We recommend that Jail administration continue to explore ways for post-release SPMI inmates to follow through on their action plans, including filling of prescriptions and meeting appointments at mental health care providers, such as Valley Mental Health.

2.4.2 We recommend that alternatives to incarceration of the mentally ill, including mental health court, be expanded and additional options explored as a way to reduce Jail population and improve individual clinical outcome.

2.5 A 36% increase in costs occurred in 2004 and was attributed to increased use of psychotropic medications for treatment of depression and mental illness.

An increased use of psychotropic medications starting in November 2003 contributed to increased pharmaceutical expenditures.

The change in Mental Health Contractor in November 2003 coincided with a marked increase in pharmaceutical costs in 2004 of 36 percent. Costs that in 2003 were \$785,601, increased to \$1,071,824 in 2004. Administrators attributed the increase to various factors within mental health operations including the lack of a drug formulary, excessive prescribing of name-brand drugs, and the loss of coupons that provided the Jail with drugs, such as Zyprexa, at discounted or no cost.

The Medical Contractor expressed frustration with the Mental Health Contractor for being slow in developing a drug formulary once they took over operations. As a result, the Medical Contractor developed a formulary, unilaterally, from which psychiatrists were to prescribe, due to his assessment that the Mental Health Contractor was not responsive. Even so, after development of the formulary, professional staff persisted in prescribing more expensive non-formulary medications.

The Mental Health Manager admitted to experiencing start up difficulties when their contract began. There were no psychiatrists on staff and few educational

programs developed as alternatives to prescribing medication. The lack of these programs and professional staff resulted in significantly greater pharmaceutical expenditures.

Again, the lack of useable data from the Pharmaceutical Contractor prevented our performing a detailed comparison of specific drug quantities prescribed in 2004 over 2003. However, the start-up problems with the Mental Health Contract, which may have led to over-prescribing of psych meds as a default treatment, could have contributed to the sudden jump in medication expenditures. Figure 6 below compares month-to-month invoice amounts in 2003 and 2004, and shows the significant cost differential through August 2004 when expenditures returned to 2003 levels and stayed there for the remainder of the year.

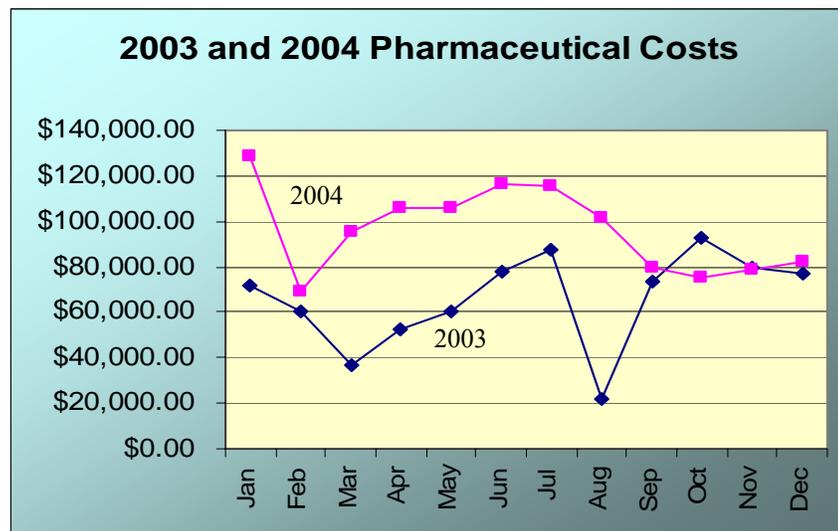


Figure 6. The largest invoice was for \$129,000 in January, 2004. In the April through August, 2004 period, invoices remained above \$100,000.

The Mental Health Contractor attributed much of the increase on termination of Zyprexa coupons at about the time they were awarded the contract in November 2003. (See Table 10). Zyprexa is the brand name for a psychotropic medication approved for the treatment of schizophrenia, acute mania associated with bipolar disorder, as well as maintenance treatment for bipolar disorder. Table 2, page 22, shows that this drug is the most expensive psych med per dose of the 17 we examined. Either the prior Mental Health Contractor was able to obtain these coupons and the current Mental Health Contractor could not, or the manufacturer was no longer issuing them. For whatever reason, Zyprexa coupons were no longer available. We did not independently determine the cause.

Monthly invoices from 2002 and 2003 submitted by Pharmaceutical Contractor indicate discounts from Zyprexa coupons. The detail needed to drill down on this issue was not available because it was printed on separate pages originally attached to the invoice, but later discarded. However, on the face of invoices

Yearly savings from Zyprexa coupons prior to 2004 could have been as much as \$240,000

reviewed we noted monthly coupon savings as high as \$29,794 on the August 2003 invoice.

Coupon redemption discounts had dropped dramatically by January 2004, to only \$403, and by February were no longer shown on invoices. In contrast, during 2002 and 2003 coupon savings ranged from \$10,000 to \$30,000 per month. Extrapolating an average monthly coupon discount of \$20,000, the annual savings could have been about \$240,000. This phase out of the coupon discounts in the latter half of 2003 placed the new Mental Health Contractor in the situation of facing significant cost increases for selected psych meds when their contract began in November 2003.

We also reviewed discounts from coupons for Seroquel and Geodon, two other antipsychotic drugs. These additional discounts phased out by early 2004. Table 18 below shows month-to-month savings from Zyprexa coupons as reported on available pharmaceutical invoices.

Zyprexa Coupon Savings- Selected Months 2002-2003 and Resulting Drop-off 2004	
<i>Month</i>	<i>Savings</i>
Feb 02	\$22,461
May 02	\$14,854
Jun 02	\$10,899
Jul 02	\$12,546
Aug 02	\$12,984
Sep 02	\$18,338
Mar 03	\$18,851
Jun 03	\$29,476
Jul 03	\$29,799
Aug 03	\$29,794
Jan 04	\$403
Feb 04	\$0

Table 18. *By February, 2004, Zyprexa discounts were no longer available.*

Lower-priced alternatives to Zyprexa were available but the Mental Health Contractor was reluctant to make an immediate change. The Pharmaceutical Contractor felt that ethical and clinical considerations prohibited a sudden switch to another medication when the inmate was prescribed and accustomed to using Zyprexa. In fact, as already mentioned, physicians tend to continue medications to inmates which have previously been prescribed. Lower-cost alternatives often are older-generation medications that may not be as effective or may create more adverse side-effects than newer medications.

Figure 7 on page 54, shows expenditures for Zyprexa in selected months from December 2001, through March 2006. Coupons reduced costs from December

2001, through August 2003, and then costs took a sudden jump at the end of 2003 as coupons were no longer available for redemption. By the end of 2004, alternatives to Zyprexa were being used, thereby reducing costs. However, as of 2006, Zyprexa coupons were again offered and redeemed, though not as extensively as in prior years, indicating that Zyprexa was not being prescribed as much as in prior years.



Figure 7. *By the end of 2003 and into 2004, Zyprexa costs increased significantly because coupons were no longer available.*

As previously described, in an August 15, 2004 email to the Jail captain in charge of medical operations, the Medical Contractor complained about the previous month's pharmacy invoice. This resulted in an emergency meeting of the Pharmacy and Therapeutics Committee during which a formulary was proposed for the Mental Health Contractor. Steeply rising pharmaceutical expenditures created friction between the Medical Director and Mental Health Contractor and its Manager. During our interviews, the current Mental Health Manager admitted their organization was somewhat disorganized at the outset of the contract, a factor that contributed to rising pharmaceutical expenditures and the friction described above.

Pharmacy costs decreased in 2005, indicating a stabilization of spending in psychotropic medications.

The Mental Health Contractor replaced three mental health managers in the first 18 months of its contract, which contributed to a lack of administrative focus and an inadequate level of service delivery for the County. However, improvements have been made since that time, to the satisfaction of Jail administrators. As of October 2006, the current Mental Health Manager has held his position for 15 months, a drug formulary is in place and being followed, and monthly detailed statistical reports, as mentioned previously, are being submitted to the Jail Health Authority. Most importantly, pharmaceutical costs decreased by 11 percent in 2005 to \$957,335. Relations between the Medical and Mental Health Contractors have also improved. Better delivery of mental health services and reduction of costs reflect positively on the Mental Health Contractor and Jail administration. The improved efficiencies and service delivery are a direct result of this collaborative effort and should be commended. The Medical Contractor and

Mental Health Manager should continue to work together for more efficient ordering and delivery of prescription services.

2.6 RECOMMENDATIONS:

2.6.1 *We recommend that the Mental Health Contractor continue efforts to obtain the cost-saving benefits of pharmaceutical coupons to reduce pharmaceutical costs.*

2.6.2 *We recommend that the Medical Contractor and Mental Health Manager continue the collaborative effort to improve the pharmacy formulary.*

2.7 Coupons valued at over \$90,000 were received by the Jail Health Authority but only \$7,640 could be redeemed.

As previously mentioned the Mental Health Manager had routinely provided prescription coupons to the Jail. In fact, he had provided the Jail Health Authority about \$100,000 worth of coupons from April 27, 2005 to the time our field work ended in August 2006. The Mental Health Manager had a record of the coupons he provided to the Jail Health Authority, which we examined. Table 19 below, shows the top ten coupons given to the Jail Health Authority since April 27, 2005 and the random dates the coupons were received by the Mental Health Contractor. The complete list appears as Appendix L following the report.

Coupons Provided to Jail Health Authority by Mental Health Manager April 2005 – June 2006				
<i>Date</i>	<i>Medication</i>	<i>#</i>	<i>Coupon Value</i>	<i>Total Value</i>
4/27/2005	Risperdal – 30 day	40	\$248.84	\$9,953.60
8/23/2005	Risperdal	25	\$248.84	\$6,221.00
5/3/2005	Zyprexa – 30 day	9	\$534.22	\$4,807.98
5/10/2005	Abilify – 30 day	10	\$420.00	\$4,200.00
6/1/2006	Abilify – 30mg	10	\$420.00	\$4,200.00
4/27/2005	Seroquel - 300mg (2)	10	\$415.18	\$4,151.80
2/15/2006	Risperdal – 30	15	\$248.84	\$3,732.60
5/17/2006	Risperdal – 30	15	\$248.84	\$3,732.60
4/27/2005	Risperdal – 4	15	\$248.00	\$3,720.00
5/9/2005	Lexapro – 30 day	50	\$65.38	\$3,269.00

Table 19. *The Mental Health Manager provided coupons valued at over \$90,000 from April 27, 2005 to the present.*

The Jail Health Authority asserted that not all of the coupons could be redeemed for two specific reasons:

1. Many were held past their expiration date, and
2. Most coupons could be redeemed only for a new prescription, not a refill.

He maintained that the combination of these two restrictions resulted in the significant difference between the dollar amount of coupons provided to him and the amount received in credit from the Pharmaceutical Contractor. This process received limited further examination. The audit team noted that one of the coupons we examined, for Risperdal, had an expiration date of April 2007, many months hence. However, the Jail Health Authority indicated that such an extended expiration date was atypical and many of the coupons have an expiration date much closer to the date of receipt. We did not independently examine the expired coupons.

The Pharmaceutical Contractor sends the coupon it receives from the Jail Health Authority to the drug manufacturing company who then gives the Pharmaceutical Contractor the credit which is subsequently shown on the invoice to the Jail. If a coupon is used and a portion of the prescription is returned, the Jail does not get any refund because the coupon-discount credit was received initially.

Miscommunication seems to have occurred between the Mental Health Manager and Jail Health Authority. These parties should develop an internal policy and procedure for redeeming coupons to ensure that the greatest cost savings possible are achieved.

2.8 RECOMMENDATION:

We recommend that an internal policy and procedure be developed and communicated to achieve the optimal use of pharmaceutical coupons.

2.9 Invoices were paid at face value without price verification.

Each month the Pharmaceutical Contractor submits a bill to the Jail for the medications shipped to the Jail the previous month. The invoice includes both a summary statement and a detailed invoice breakout of each prescription medication by:

- Type,
- Strength,
- Number shipped, and
- Cost.

Also included on the invoice are:

- Sheriffs office number,
- Inmate's name,
- Prescription number, and
- Ordering physician.

related to each medication on a date-shipped basis. Typically there as many as 4,000 lines, each line representing one prescription, on the detailed invoice. There is also a detailed list of credits issued (about 2,000 lines of data), and a "Psych Invoice" which lists the psych meds shipped to the Jail, on a patient-by-patient basis.

In addition to these detailed invoices, there are a number of management summary reports including the:

- *Formulary Management Report*
- *Therapeutic Class Report*
- *Top Medications by Price.*

Non-formulary drug usage is monitored in reports by *Prescriber, Price, and Quantity.*

The monthly invoice is sent with one of the daily shipments shortly after month end. When the invoice arrives it goes to the Jail Health Authority who makes copies of the management reports for the Medical Contractor, the Mental Health Manager, the Jail Captain, the Director of Nursing and the Quality Assurance Nurse.

The Jail Health Authority indicated that he spends between 30 and 60 minutes reviewing this substantial packet of documents. Most of this review is directed to the management reports and follow-up on any medication incidents which have occurred during the billing period. Medication incidents include such things as untoward side-effects, mislabeled medications, etc. The Jail Health Services Captain also reviews the management reports. His primary focus is to identify and investigate any large shifts in costs and the explanation for those shifts. The Jail Health Authority authorizes payment and forwards the invoice to Jail staff for processing and payment.

No internally developed reconciliation was provided for our review to enable an independent verification that the medications received match the medications ordered. Likewise, we were provided with no documentation of the internal process by which the medications received in each order are reconciled to the amounts billed by the Pharmaceutical Contractor. Thus, we had no evidence that the medications received were reconciled to the detailed invoices. It is a violation of sound fiscal management practices to place sole reliance upon the vendor to provide reliable billing invoices with no independent verification that items billed match items ordered and received.

Because of the large volume of medications received, the task of determining that each medication received is correctly billed is challenging. However, management should make a good faith effort to validate the accuracy of the

Jail administration did not match any invoice data to medication orders placed and received.

Jail Medications

detailed invoices. Given the significant cost of the medications and the high possibility of error, developing a detailed database of medications ordered that could be compared to the invoice detail each month would be cost effective, even if a full-time accounts payable clerk was hired to perform the reconciliation.

2.10 RECOMMENDATIONS:

2.10.1 *We recommend that Jail management develop and implement a means of verifying the accuracy of the medication invoices, including considering hiring additional fiscal staff to monitor receipt of orders and reconciliation to invoices.*

2.10.2 *We recommend that Jail Administration consider engaging a contractor to program an interface between the EMR and the Pharmaceutical Contractor's system to facilitate a reconciliation of medications ordered to medications billed.*

3.0 Refunds for Unused Medications.

The Jail's ability to return unused medications for refund is a distinct financial advantage that the Pharmaceutical Contractor offers. Even partially-used blister packs where some of the pills have been removed from the card will be accepted for refund. Adequate monitoring of the refunded amounts and tracking of returned inventory would help maximize financial benefit to the Jail. Our findings in this area are as follows:

- **Medications received at the Jail had expiration dates which allowed returns for credit.**
- **The County does not receive credit for some returned medications due to the return processing fee.**

3.1 Medications received at the Jail had expiration dates which allowed returns for credit.

Medications have expiration dates. The expiration date is set by the manufacturer as the date after which they can no longer guarantee the medication's effectiveness. The County's current contract with the Pharmaceutical Contractor calls for credit to be issued:

- "...on returned, non-controlled tablets or capsules remaining in the original blister packaging. PROVIDER shall credit full or partial cards."

Generally medications cannot be returned to the Contractor for credit if they are less than 90 days from their expiration date.

Jail Medications

- provided they are returned prior to three (3) months before expiration,
- have been stored under proper conditions,
- have not been released to the patient
- are permitted for return by the State Board of Pharmacy and FDA.

Note: Controlled medications cannot be returned due to regulations governing the shipment of narcotics.

We tested whether the medications delivered by the Pharmaceutical Contractor allowed enough time, before expiration date of the medication, to be delivered and returned without failing the time-before-expiration requirement. To complete the test work, we noted the expiration date of each medication received from the Pharmaceutical Contractor on two different shipments. The two shipments included 260 blister packs or other containers of medication representing 205 separate prescriptions. Of the 205 prescriptions tested, 191 were for non-controlled prescriptions. Only 3 of the 191, or 1.57 percent, were due to expire in 90 days or less. The results of our testing are shown in Table 20 below.

Over 95% of non-controlled medications received at the Jail have expiration dates greater than 180 days from the date of receipt.

Summary of Medication Expiration Dates		
<i>Due to expire in:</i>	<i>Number of Prescriptions</i>	<i>Percent of Prescriptions Received</i>
Less than 90 Days	3	1.57%
90 Days to 180 Days	6	3.14%
180 Days to 360 Days	175	91.62%
Greater than 360 Days	7	3.67%

Table 20. *Most medications received at the Jail have expiration dates greater than six months from the date of receipt.*

For the three medications with expiration dates less than 90 days from the date of receipt, we followed-up on the ultimate disposition of the medications. Pharmacy staff provided the following information in Table 21 on page 60.

Status of "Short-dated" Medications Received			
<i>Rx Number></i>	<i>6769094</i>	<i>6768898</i>	<i>7410349</i>
Date Received	3 Mar 2006	3 Mar 2006	18 May 2006
Expiration Date	1 Apr 2006	1 May 2006	1 Aug 2006
Medication/ Strength	Digoxin .25mg	Dicloxacillin 500mg	Levothroid 100mcg
Number Issued	15	40	15
Cost	\$ 4.51	\$ 20.49	\$ 5.33
Disposition	Returned	Administered	Administered

Table 21. Only \$4.51 of medication was not eligible for credit due to being received within 90 days of expiration.

Only one of the three short-dated medications was returned. The other two medications were fully administered to the patients. Therefore, only \$4.51 in return credit was lost because of the short return date. The Pharmaceutical Contractor will consider full credit on medications whose expiration date is less than 90 days from the date received at the jail if the medication is returned immediately.

The overall rate of 98.43 percent of medications received with expiration dates greater than 90 days is very acceptable, especially with the preponderance of the medications (over 95 percent) with expiration dates greater than 180 days. Given that the medications are ordered with the expectation that they will be administered (and most are), we do not believe that the 1.57 percent rate of "short-date" medications received is any cause for alarm. That said, a quarterly review of one day's medications date-received compared to expiration-date would provide on-going assurance that the Pharmaceutical Contractor was not providing an excessive amount of "short-dated" medications.

Most medications were within Contractor specifications for being returned.

3.2 RECOMMENDATION:

3.2.1 *We recommend that Jail staff compare the date received to the expiration date on one shipment received per quarter.*

3.2.2 *We recommend that any medication whose expiration date is less than 90 days from the date they are received at the Jail be returned to the Pharmaceutical contractor for full credit.*

3.3 The County does not receive credit for some returned medications due to the return processing fee.

The previous pharmacy contract, in effect until November 2005, allowed for medications to be returned for credit at the rate of 100% of the amount billed, in this case the Average Wholesale Price (AWP), less 14 percent for brand-name medications and less 35 percent for generic medications. The AWP is set forth in "Drug Topics Red Book," published by Medical Economics Company, Inc. (Now Thomson PDR) of Montvale, NJ. The current contract, which went into effect

December 2006, as already stated, provides for all returned prescriptions to be refunded at the rate of 100 percent of the amount billed less a \$1.95 per prescription processing fee.

We performed a comparison of returned medications and refunds given for three months, August 2004, December 2004 and March 2006. We chose December 2004 rather than December 2005 because the new contract took effect December 1, 2005 and that billing month reflected a combination of both the old and new costs. The invoices for August and December 2004 reflected the old contract entirely and the invoice for March 2006 reflected the new contract only.

We selected the following medications to compare the credit received for the three months surveyed: Acetaminophen, Amitriptyline, Aspirin, Bupropion, Citalopram, Fluoxetine, HCTZ, Ibuprofen, Lisinopril, Paroxetine, Penicillin VK, Prilosec OTC, Risperdal, and Valproic Acid.

Table 22 below and Tables 23 and 24 on page 62 show the number of pills returned compared with the number of pills purchased in the same month, for August 2004, December 2004 and March 2006, respectively. Because of timing differences in which a pill purchased one month may be returned the next, the table below does not reflect returns for the actual purchases.

August 2004 – Old Contract					
Drug Name	No. of Pills Purch.	Amt Paid for Med.	No. of Pills Ret'd	Credit for Returns	% of Credit to Original Cost
Acetaminophen	6,797	\$ 44.41	2,186	\$ 16.03	36.10%
Amitriptyline	1,167	\$ 562.68	575	\$ 239.94	42.64%
Aspirin	2,035	\$ 33.17	548	\$ 9.92	29.91%
Bupropion	4,675	\$ 2,285.22	1,290	\$ 608.67	26.64%
Citalopram	-	-	-	-	-
Fluoxetine	2,669	\$ 1,395.83	1,228	\$ 653.77	46.84%
HCTZ	1,320	\$ 89.98	358	\$ 24.5	27.23%
Ibuprofen	7,646	\$ 1,509.94	1,733	\$ 360.92	23.90%
Lisinopril	2,145	\$ 1,529.04	849	\$ 604.74	39.55%
Paroxetine	1,616	\$ 2,879.68	412	\$ 713.11	24.76%
Penicillin VK	2,954	\$ 958.20	1,011	\$ 330.28	34.47%
Prilosec OTC	645	\$ 348.35	45	\$ 24.3	6.98%
Risperdal	2,768	\$16,062.77	1,050	\$ 6,144.40	38.25%
Valproic Acid	6,565	\$ 3,520.95	2,122	\$ 1,126.81	32.00%
Total	43,002	\$31,220.22	13,405	\$10,857.39	34.78%

Table 22. Credits for returns in August 2004 were \$10,857. See subsequent tables for comparison.

December 2004 – Old Contract					
Drug Name	No. of Pills Purch.	Amt Paid for Med.	No. of Pills Ret'd	Credit for Returns	% of Credit to Original Cost
Acetaminophen	6,968	\$ 46.00	2,811	\$ 47.80	103.91%
Amitriptyline	1,265	\$ 566.16	466	\$ 203.44	35.93%
Aspirin	1,206	\$ 16.36	776	\$ 18.17	111.06%
Bupropion	4,443	\$ 2,216.16	2,430	\$ 1,234.61	55.71%
Citalopram	61	\$ 104.84	30	\$ 51.56	49.18%
Fluoxetine	1,344	\$ 704.20	519	\$ 339.93	48.27%
HCTZ	1,308	\$ 89.15	539	\$ 36.65	41.11%
Ibuprofen	10,486	\$ 2,074.70	3,316	\$ 596.64	28.76%
Lisinopril	2,512	\$ 1,812.79	1,016	\$ 729.77	40.26%
Paroxetine	2,033	\$ 3,542.50	661	\$ 1,176.04	33.20%
Penicillin VK	3,230	\$ 795.54	1,011	\$ 270.22	33.97%
Prilosec OTC	3,189	\$ 1,722.34	1,242	\$ 670.80	38.95%
Risperdal	2,304	\$13,481.59	1,011	\$ 5,614.27	41.64%
Valproic Acid	8,340	\$ 4,472.80	3,904	\$ 2,109.63	47.17%
Total	48,689	\$31,645.13	19,649	\$13,099.53	41.40%

Table 23. Credits for December 2004 totaled \$13,100.

March 2006 – New Contract					
Drug Name	No. of Pills Purch.	Amt Paid for Med.	No. of Pills Ret'd	Credit for Returns	% of Credit to Original Cost
Acetaminophen	10,193	\$ 556.91	5,103	\$ 1.34	0.24%
Amitriptyline	1,580	\$ 400.57	652	-	0.00%
Aspirin	858	\$ 196.42	413	-	0.00%
Bupropion	4,235	\$ 1,084.29	2,162	\$ 233.6	21.54%
Citalopram	1,322	\$ 479.52	451	-	0.00%
Fluoxetine	2,497	\$ 397.06	1,316	\$ 48.42	12.19%
HCTZ	1,690	\$ 399.98	358	\$ 12.86	3.22%
Ibuprofen	8,319	\$ 1,109.47	3,188	-	0.00%
Lisinopril	2,402	\$ 669.66	775	\$ 2.73	0.41%
Paroxetine	1,312	\$ 1,093.40	493	\$ 137.59	12.58%
Penicillin VK	2,562	\$ 465.99	900	\$ 51.22	10.99%
Prilosec OTC	3,317	\$ 2,502.97	1,075	\$ 430.04	17.18%
Risperdal	1,736	\$10,464.71	876	\$ 5,012.65	47.90%
Valproic Acid	7,398	\$ 1,536.65	4,466	\$ 553.92	36.05%
Total	49,421	\$21,357.60	22,228	\$ 6,484.37	30.36%

Table 24. Under the new contract, refunds are appreciably less, though overall expenditures for this month were less than months tested under the prior contract, see Tables 22 and 23.

Refunds under terms of the new contract may not be as great as under the old contract, but overall expenditures may be somewhat less.

The total magnitude in credits issued over the period from October 2004 to May 2006 could not be determined because the invoices were not in an electronic file and the audit team had complete information only for the months manually input. However, we did compare the summary invoices for the months of October 2004 through May 2006. Based on this limited test sample, the only conclusion we could draw is that credits for returns, as a percentage of the total amount expended, decreased from October 2004 to May 2006.

For further detail, Appendix M lists the amount expended each month for medications, the amount spent on backup medications (medications purchased locally), minus credits for returned medications and credit for coupons.

4.0 Inventories of Medications

The Jail maintains its medication stock in a locked pharmacy room where medications are received, stored, and ultimately dispensed to inmates from carts that are wheeled out to the pods for distribution. Dispensing of medications is tracked on individualized MAR cards for each inmate. We found that additional inventory controls in the receiving and, in some cases, return of medications are needed to help prevent theft and ensure that medications are distributed to inmates as prescribed. Our findings in this area are as follows:

- **All drugs were dispensed solely to inmates booked into Jail, but within the Electronic Medical Record, entries in “date” fields were not in logical sequence.**
- **Medications received at the Jail and medications returned to the Pharmaceutical Contractor were not adequately inventoried.**
- **A theft of a controlled substance occurred, and inventory controls over these substances were inadequate.**

4.1 All drugs were dispensed solely to inmates booked into Jail, but within the Electronic Medical Record, entries in “date” fields were not in logical sequence.

We asked the Electronic Medical Record (EMR) developer, a company located in Nashville, Tennessee, that developed the program used to track medications distributed to inmates, to provide information regarding medications dispensed at the Jail. The information that we requested was not readily available and had to be programmed. We requested the following information: *name, sheriff’s number, prescription start date and prescription stop date.*

The programmer set up a database that provided the following information:

- medical record number (sheriff’s number)
- patient last name
- patient first name
- patient middle initial
- NDC (National Drug Code) number
- label name (includes brand name, drug strength description and dose unit description as it would appear on the label)
- brand name (could be a generic name as well)

Inmate medication start and stop dates were switched in much of the data provided by the company in Nashville that provides the EMR software and stores data from this system.

- drug strength description
- dose unit description
- dose
- route of administration (oral, injection, etc.)
- frequency code
- frequency description
- first dose date and time
- stop date and time
- automatic stop date and time.

We received the information on a disk with 51 files. These files were subsequently merged into one file and compared to the booking information received from the Jail Executive Management System (JEMS). Many of the *first dose dates* and *stop dates* were reversed in the files provided to us. The company indicated that the first date in the row was the *first dose date*, the second date was the *stop date* and the third date was the *auto stop date*. However, that order was not consistently followed in many of the prescription listings received from the EMR developer. These date reversals did not appear to have a pattern.

First-dose dates are entered by default into the system. Therefore, input errors at the Jail were not possible. How the dates of the report could be reversed or could be outside of the incarceration dates was not determined. Despite these errors, it appears that essentially all medications were given to inmates during the time they were booked into Jail.

We contacted the company's programmer on August 23, 2006 by telephone and email. The programmer returned an email message the same day saying he was checking with his supervisor to see if he could work on this project. No follow-up information was received from the company.

4.2 RECOMMENDATION:

We recommend that Jail administration work with the Electronic Medical Record contractor to ensure that data is maintained in a correct format without reversal of start and stop dates.

4.3 Medications received at the Jail and medications returned to the Contractor were not adequately inventoried.

The medication order is transcribed into the Electronic Medical Record (EMR) by a Registered Nurse (RN). At the beginning of each day, 12:00 noon, the pharmacy technician runs a report from the EMR host system showing all new prescriptions since the last report, usually the past 24 hours. If a medication was ordered for a patient and the current on-hand supply is near depletion, the nurse places a reorder label on a specifically designed pharmacy worksheet. Also, any discontinued medications are noted on another worksheet in the pharmacy. A

pharmacy technician faxes the *New Medications Ordered* report, the *Reorder Worksheet* and the *Discontinued Worksheet* to the Pharmaceutical Contractor.

A nurse transcribes the prescription order and prepares the *Medication Administration Record* (MAR). An MAR card is provided by the Pharmaceutical Contractor and used to track medication administration for each prescription. Up to six separate medications can be tracked on a single MAR, but each patient has an individual MAR. When the MAR is prepared, a nurse places it in a three-ring binder kept on the medications cart. Each dose of the medication is noted on the MAR as it is administered.

When medications are received into inventory, the MAR is marked with a pink dot to indicate that the medication is on the medication cart and ready to be dispensed as ordered. If a medication is ordered, but not received, the nurse notes this on the MAR by placing a # 6, "Medication out of Stock" code on the date. A series of 6's prompts a telephone inquiry to the Pharmaceutical Contractor as to why the medication has not been received.

The packing slip included in the daily shipment from the Pharmaceutical Contractor includes an exception list of medications ordered and not shipped. However, there is no internal comparison of medications received to the medications ordered except for the notation on the MAR. In other words, the inventory control hinges on the MAR. Since the MAR is generated by notations from the nursing staff, there is opportunity for error. Currently, there is no effort to utilize the EMR host system to provide a monthly report of medications ordered. If such data was available, it could be compared and reconciled to the detailed invoice submitted by the Pharmaceutical Contractor.

If a non-controlled medication is discontinued, or if a patient is released from Jail, any remaining medications in blister packs are placed in a box for shipment the following day to the Pharmaceutical Contractor. No effort is made to note the medication or the number of tablets, pills, or capsules being returned. Each day the returns are boxed and prepared for shipment. The pharmacy technician prepares the box and takes it to the loading dock to be picked-up when the daily medication shipment is received.

Once opened, lotions, ointments and liquids are non-returnable and are placed in the controlled medications disposal locker. Controlled medications cannot be returned due to United States Drug Enforcement Agency regulations prohibiting shipment of narcotics through the mail. Controlled medications are placed in the controlled medications disposal locker until the quarterly visit by the Pharmaceutical Contractor's registered pharmacist who, along with the Nurse Supervisor, performs an inventory and disposes of all discontinued controlled medications. The pharmacist and the Nurse Supervisor initial the Controlled Medication Flow Sheet for each controlled medication verifying the inventory count and witnessing the destruction of these medications.

The entire system of ordering, receiving and returning medications was heavily reliant on the good faith and best efforts of the Pharmaceutical Contractor to accurately record and charge or credit the Jail for the correct number of

No interface exists to compare the electronic medical record (EMR) host system, where prescriptions orders are entered, to the medication administration record, where actual dispensing to inmates is recorded.

medications delivered to and returned from the Jail. There was no independent verification of medications received to medications ordered, and no documentation of the number of medications returned for credit.

Because of the lack of internal controls on these processes, we were unable to form a conclusion as to whether Jail Administration could detect major discrepancies between the medications ordered, actually received, dispensed or returned for credit and those subsequently invoiced. Best practices in fiscal control and cost accounting would not rely solely on the Pharmaceutical Contractor to provide reliable invoices and reports of returned medications. Since the cost of medications at the Jail is currently running at a million dollars per year, an additional investment in database development to produce reconciliation reports and hiring of an accounts payable manager and/or other fiscal personnel is highly recommended.

4.4 RECOMMENDATIONS:

4.4.1 *We recommend that Jail management develop and implement a system of review and reconciliation of medications ordered, received and returned, which in turn reconciles to medications billed and credited.*

4.4.2 *We recommend that Jail management hire additional staff, including an accounts payable manager, to oversee these reconciliation processes.*

4.5 A theft of a controlled substance occurred, and inventory controls over these substances were inadequate.

During our audit, the Health Authority reported that a theft of Lortab, a controlled-substance, narcotic pain reliever, had recently been committed by one of the pharmacy technicians. Three cards of 30 tablets each were stolen. Another Jail employee observed the theft and reported the alleged perpetrator to Jail authorities. The individual was placed on administrative leave pending an investigation and subsequently submitted their resignation.

After our review of Jail internal controls over controlled substances, we concluded that procedures for tracking and securing controlled substances were not adequate to deter theft. In reviewing these procedures, we inspected the cabinet where controlled substances were maintained, inquired about inventory control procedures and observed the destruction of expired or unused controlled substance prescriptions. As a result, we found that the Jail pharmacy technicians track the number of pills in individual bottles, but do not conduct an overall inventory of bottles or blister pack cards within the secured, controlled-substance cabinet. Failure to track overall inventory is a substantial and notable weakness that allows for undetected theft or conversion to personal use.

As a first line of defense, controlled substances are safeguarded in a locked cabinet within the pharmaceutical room which has a locked door. This is in accordance with Jail policy which requires that controlled substances be secured behind two locked doors. Moreover, when controlled substances are released for distribution on carts wheeled out to inmate housing units, they are likewise secured in a locked box within a locked drawer. The nurse supervisor has the keys to the cart storage box and drawer, and passes them on to the next supervisor at the shift change.

Controlled substances are double counted twice a day, once in the morning and again in the afternoon, by two nurses or pharmacy technicians. Each bottle or blister card has an inventory count sheet assigned to it, called the "Controlled Medication Flow Sheet" (Flow Sheet) on which the number of pills in each bottle or on each card is recorded. The number is revised each time pills are removed for dispensing to inmates. In the inventory procedure, the two nurses or pharmacy technicians count the pills and compare their count to the number on the Flow Sheet, following which they sign the sheet as evidence of completing the inventory. These Flow Sheets number in the dozens and are maintained in a binder that is typically stored, unsecured, by the controlled-substance cabinet.

A controlled substance designated for destruction is taken out of inventory in the controlled-substance cabinet, wrapped in its Flow Sheet, and transferred to a nearby safe. Substances become obsolete once their shelf life expires, or the inmate for whom they are prescribed is released from Jail. A nurse assists the Contractor Pharmacist in destroying the controlled substances during his quarterly visit to the Jail. Both individuals sign the Flow Sheet which is then filed in a binder in the pharmacy room.

The twice-daily inventory count tied to Flow Sheets is the beginning step in an effective procedure for tracking the dispensing of controlled substances. However, a comprehensive inventory control sheet should be maintained to tie the individual Flow Sheets together and produce a periodic total inventory, at least weekly or bi-weekly. While individual pills are counted twice daily, the number of containers or blister cards within the cabinet are not counted or tracked. Thus, an entire container could be removed from the cabinet and its Flow Sheet removed from the binder without being readily detected. This is a major control weakness.

Flow Sheets are regularly removed from the inventory binder for medications that are fully dispensed, or designated for destruction and moved to the safe. Removing a Flow Sheet to conceal a theft might easily go unnoticed because it would not be distinguished from one of these other events.

Thus, we recommend that individual bottles and/or blister packs be listed, counted and categorized on a comprehensive inventory control sheet and that occurrence of the following events be noted on the control sheet:

- Substances totally consumed,
- Substances transferred to the safe for destruction
- Substances destroyed.

Additionally, Flow Sheets should be pre-numbered sequentially. The sequentially numbered Flow Sheet should be listed on the comprehensive inventory control sheet by name of medication. This added step of reconciling pill-counts to the bottles or blister packs in which they are contained will help deter future thefts and provide Jail management with additional assurance that controlled substances are used as intended.

In addition, the process for receiving medications in the UPS shipment should have additional safeguards. Controlled substances arrive in the UPS shipment together with other medications. The Lortab theft, previously noted, reportedly occurred during the unpacking of this shipment. Having two individuals present to inventory the arriving shipment should be a regular part of the receiving process. The packing slip report, available on floppy disk at time of receipt, should be printed, used for the review and signed by both individuals performing the inventory. These annotated packing slips should be kept on file for two years.

We could not determine that any of these packing slip reports had been maintained on file prior to our audit and they were likely discarded after being printed.

4.6 RECOMMENDATIONS:

4.6.1 *We recommend that an accountability step be added to produce a comprehensive inventory of all controlled substances by listing all containers or blister packs in the cabinet, and noting those that have been totally consumed, transferred to the safe for destruction, or destroyed.*

4.6.2 *We recommend that Controlled Medication Flow Sheets be pre-numbered sequentially and that they be listed on the overall inventory control sheet mentioned in 4.6.1 above.*

4.6.3 *We recommend that packing slip inventories for controlled substances received in the UPS shipment be conducted with two individuals present, that both individuals sign the completed inventory form, and the form be kept on file for two years.*

ACTION TAKEN:

Jail administration reports that a control sheet for all medications in the controlled substances cabinet is now in place, according to procedures outlined in recommendation 4.6.1

5.0 Reporting by and Satisfaction with the Contractor

The Pharmaceutical Contractor has been under contract at the Jail for eight years including a renewal in 2005. This longevity would indicate a certain level of

satisfaction with performance, including the timeliness and efficiency with which medications are received. We heard no complaints from management or staff at the Jail regarding the Pharmaceutical Contractor's reliability. We have two findings in this section, the first of which is positive and reflects favorably on the Pharmaceutical Contractor's performance:

- **The Pharmaceutical Contractor has provided an efficient way for dispensing medications and Jail staff, in general, has been pleased with their efforts.**
- **Pharmaceutical Contractor's statistical reports sometimes contained inconsistent data and Jail administration did not keep many of these reports on file for future reference and analysis.**

5.1 The Pharmaceutical Contractor has provided an efficient way for dispensing medications and Jail staff, in general, has been pleased with their efforts.

In 1998 Moore and Associates, Inc. conducted a study of the Metro Jail and Oxbow Jail. At that time, pharmaceutical services were provided by an on-site pharmacy, located at both the Metro and Oxbow Jails. Six pharmacists had sub-contract agreements to fill prescriptions on a daily basis. Neither jail had a computer or a fax machine on site. Multiple problems existed at that time including the fact that the pharmacy did not receive a copy of the inmate transfer list. Thus, medications may have been filled for an inmate at Metro who had been transferred to Oxbow, or vice versa. Medications ordered may not have been in stock and the wait for those prescriptions was typically as long as 14 days. According to the report, the pharmacist at that time estimated that the inventory of medications was approximately \$15,000 to \$18,000, and the formulary in place was rarely consulted.

The Moore report stated that prior to 1998, "...nurses were taking medications from card packages and re-packaging them into pill envelopes. The Professional Board advised the jail that the practice was unacceptable, and nurses now distribute medications once per day." There was no "keep-on-person" policy and the inmates did not sign a form indicating they had received the medication. The daily dispensing of medications was time intensive and there was no reporting system to indicate medication usage.

The Moore report concluded that the pharmacy practices at the Jail were unsafe. The report specified several areas in which the pharmacists were not performing their job in the approved manner and concluded that the County would be liable for any incorrect procedures performed by the pharmacists. Because of these problems, the Jail Commander contacted the current Pharmaceutical Contractor, among others, for help in resolving the crisis.

Currently, the process for determining medication needs, as described previously,

The Contractor has provided an efficient and effective way for ordering and distributing medications

is more orderly and systematic. Processes are in place to ensure that the Jail does not accept unwarranted claims from inmates. For example, many of the inmates claim to be on pain medications when in fact they are not, so every assertion is verified. If the medication cannot be verified, the physician will make a determination of whether the requested medication should be administered. With regard to pain medication, for example, the Jail usually gives an inmate ibuprofen rather than a narcotic pain medication.

The three pharmacy technicians work coordinated shifts and are required to have a license which is awarded after completing a nine-month course. The Pharmaceutical Contractor makes a pharmacist in Pennsylvania available at all times by phone to answer any questions from the Jail staff. The Pharmaceutical Contractor is ordinarily prompt in sending requested medications, but according to the Jail Health Authority, if an inmate has not received the medication he was prescribed, the Jail would remind the Pharmaceutical Contractor of the omission which typically would be corrected and the required medication shipped.

5.2 Pharmaceutical Contractor statistical reports sometimes contained inconsistent data, and few of these reports were maintained on file for future reference and analysis.

Most Contractor invoices to the County matched costs from the Formulary Management Report.

The Pharmaceutical Contractor generates the monthly Formulary Management Reports that includes not only current month's data, but also comparison data from the previous 11 months. Most of these reports were not on file, though the Jail retained a sufficient number of reports, which included the prior 11 months comparative data, to provide a complete data set from December 2000 through May 2006, except for July through November of 2004. The Pharmaceutical Contractor does not retain all past copies of the Formulary Management Reports and therefore was unable to provide data that would fill in this missing gap.

The Formulary Management Report is a columnar spreadsheet and includes information from 49 separate categories, including the:

- number of medications ordered,
- number of inmates on medications,
- number of inmates on psych medications,
- total expended on medications for the month, and
- amount spent on psych medications as a separate category.

Included with the Formulary Management Reports are 22 other reports with data for the current month only. Among these are various "Top 50 lists," including the top 50 medications by:

- total expenditures,
- price-per-pill or dose, and
- psych medications by total expenditure and price-per-pill.

Other lists show the most expensive patient profiles, and also non-formulary

Jail Medications

drugs dispensed during the month by name of the physician that prescribed them.

Failure to maintain reports on file prevents any future reference to data as an aid in managing pharmacy operations. Efficiencies that otherwise could be achieved may be forfeited through lack of available data. Therefore, reports should be retained for purposes of monitoring trends and formulating management decisions.

We compiled a list of monthly data from December 2000, through May 2006 using the following five fields, out of the 49 total:

- 1) Total costs less credits
- 2) Total psych med costs
- 3) Total prescription orders
- 4) Number of inmates on prescriptions
- 5) Number of inmates on psych medications

Appendix N compares costs from the Formulary Management Report to invoices received at the County, and includes lists of total prescriptions and numbers of inmates on medications, also broken down by psych med categories, for the period from December 2000 through May 2006. See Appendices M and K for lists from 1) and 2) above, respectively.

We found notable inconsistencies in Formulary Management Reports for April, June and July data of 2003. Comparison data in each of these reports was included for either 6 or 12 consecutive months. Six-month comparisons were used in reports until 2003 or 2004, at which time 12-month comparisons became standard. Consistent data from one report to the next would be expected. However, we found this not to be the case. Table 25 below shows how total costs in one month would change from one report to the next.

Cost Reporting Differences Between Formulary Management Reports			
	<i>Report Date</i>		
<i>Month of Costs</i>	<i>Nov 03</i>	<i>Mar 04</i>	<i>Difference</i>
Apr 03	\$50,635	\$44,674	\$5,961
Jun 03	\$75,565	\$65,251	\$10,314
Jul 03	\$82,649	\$54,596	\$28,053

Table 25. *Pharmaceutical costs for April, June and July, 2003 were reported differently in separate Formulary Management Reports.*

The November 2003 to March 2004 comparison was used in Table 25 above because no other reports were available for the months in-between these periods. We found that some time periods more than others had reports on file, and in fact, the Jail had less than 50 percent of these—20 reports out of the 53—for the period from January 2000 through May 2006. Only two reports were on file for 2004 and 2005.

Pharmaceutical Contractor invoices to the County would be expected to match

costs from the reports, and indeed, in most cases they did. However, comparing Table 25 data to invoices, including data from May 2003 as well, showed differences between reported and billed costs. Table 26 below shows the amount on the invoice received at the County compared to costs from the November 2003 Formulary Management Report. Differences would be even greater if the March 2004 report, as shown above in Table 25, were used in the comparison.

Differences Between Reported and Invoiced Costs			
<i>Month of Costs</i>	<i>Nov 03 Rpt Amount</i>	<i>Invoice Amount</i>	<i>Difference</i>
Apr 03	\$50,636	\$51,163	\$527
May 03	\$56,844	\$58,638	\$1,794
Jun 03	\$75,565	\$74,563	(\$1,002)
Jul 03	\$82,649	\$85,739	\$3,090

Table 26. Amounts billed were somewhat higher than amounts reported in the Formulary Management Report, except for June which was lower.

Reported inconsistencies were not corrected on subsequent reports, or otherwise explained. We presented these finding to Jail administrators, and they did not have a comment or explanation. Jail administration should monitor Formulary Management Reports to highlight and request corrections from the Pharmaceutical Contractor of mistakes that occur in the billing process.

Inconsistencies also appeared in other categories of the Formulary Management Report, including the number of inmates on medications, number of inmates on psych medications, and total psych medication costs. Table 27 on page 73 shows inconsistencies in reported psych med costs between the November 2003 and March 2004 reports. Inconsistencies were also found in earlier reports.

Differences Between Reports – Psych Med Costs			
	<i>Report Date</i>		
<i>Month of Costs</i>	<i>Nov 03</i>	<i>Mar 04</i>	<i>Differences</i>
Jun 03	\$22,068	\$23,032	(\$964)
Jul 03	\$47,961	\$21,519	\$26,442
Aug 03	\$23,302	\$20,527	\$2,775
Sep 03	\$40,356	\$40,508	(\$152)
Oct 03	\$44,392	\$44,392	\$0
Nov 03	\$45,674	\$46,414	(\$740)

Table 27. *Psych med costs also showed relatively small inconsistencies, except for July 2003, in the months shown above.*

5.3 RECOMMENDATIONS:

5.3.1 *We recommend that Formulary Management Reports, including all 22 other attachments, be kept on file for 10 years.*

5.3.2 *We recommend that Jail administration compare monthly cost totals from the Formulary Management Reports to previous reports and to the amount billed to the County, and that any inconsistencies be reported to the Pharmaceutical Contractor and corrected or explained, as necessary.*

Appendix A

Jail Meds Price Comparison											
August vs September 2005											
				August	August	September	Invoice	September	Difference	September	True Cost
Date	Medication	Strength	Quantity	Invoice	Price-per-Pill	Invoice	Price	Price-per-Pill	Sept minus Aug	Price-per-Pill	Difference
							Less \$3.40			Including \$3.40	Sept minus Aug
8/1/2005	Abilify	10	38	376.22	9.90						
9/24/2005	Abilify	10	9			88.50	85.1	9.46	(0.44)	9.83	(0.07)
8/5/2005	Abilify	15	15	155.19	10.35						
9/22/2005	Abilify	15	15			145.24	141.84	9.46	(0.89)	9.68	(0.66)
8/24/2005	Acetaminophen	500	90	0.59	0.01						
8/24/2005	Acetaminophen	500	42	0.28	0.01						
8/24/2005	Acetaminophen	500	60	0.40	0.01						
9/22/2005	Acetaminophen	500	28			3.56	0.16	0.01	(0.00)	0.13	0.12
9/22/2005	Acetaminophen	500	30			3.57	0.17	0.01	(0.00)	0.12	0.11
9/22/2005	Acetaminophen	500	60			3.75	0.35	0.01	(0.00)	0.06	0.06
8/1/2005	Acetaminophen Stock Med	500	30	0.20	0.01						
9/1/2005	Acetaminophen Stock Med	500	28			0.19		0.01	0.00	0.01	0.00
8/2/2005	Advair	250/50	60	151.61	2.53						
9/22/2005	Advair	250/50	60			140.59	137.19	2.29	(0.24)	2.34	(0.18)
8/24/2005	Allopurinol	300	15	6.45	0.43						
9/6/2005	Allopurinol	300	15			4.32	0.92	0.06	(0.37)	0.29	(0.14)
8/1/2005	Amitriptyline	25	15	3.30	0.22						
9/22/2005	Amitriptyline	25	15			3.66	0.26	0.02	(0.20)	0.24	0.02
8/24/2005	Amitriptyline	50	15	5.87	0.39						
9/22/2005	Amitriptyline	50	15			3.71	0.31	0.02	(0.37)	0.25	(0.14)
8/3/2005	Amitriptyline	100	15	10.83	0.72						
9/22/2005	Amitriptyline	100	15			4.05	0.65	0.04	(0.68)	0.27	(0.45)
8/8/2005	Amitriptyline	150	15	11.33	0.76						
9/1/2005	Amitriptyline	150	5			3.78	0.38	0.08	(0.68)	0.76	0.00
8/24/2005	Amox/Clav	875	14	45.98	3.28						
9/1/2005	Amox/Clav	875	20			29.35	25.95	1.30	(1.99)	1.47	(1.82)
8/24/2005	Aspirin Chewable	81	15	0.39	0.03						
9/1/2005	Aspirin Chewable	81	15			3.63	0.23	0.02	(0.01)	0.24	0.22
8/24/2005	Aspirin EC	81	15	0.06	0.00400						
9/1/2005	Aspirin EC	81	15			3.46	0.06	0.00400	0.00	0.23067	0.23
8/3/2005	Aspirin EC	325	60	0.28	0.00467						
9/1/2005	Aspirin EC	325	60			3.72	0.32	0.00533	0.00	0.06	0.06
8/24/2005	Atenolol	50	15	7.73	0.52						
9/1/2005	Atenolol	50	15			4.05	0.65	0.04	(0.47)	0.27	(0.25)
8/24/2005	Avandia	4	180	486.34	2.70						
9/1/2005	Avandia	4	30			76.74	73.34	2.44	(0.26)	2.56	(0.14)
8/3/2005	Avandia	8	30	150.12	5.00						
9/22/2005	Avandia	8	30			139.23	135.83	4.53	(0.48)	4.64	(0.36)
8/24/2005	Benzotropine	0.5	30	3.69	0.12						
9/2/2005	Benzotropine	0.5	30			4.56	1.16	0.04	(0.08)	0.15	0.03
8/24/2005	Benzotropine	1	30	3.57	0.12						
9/22/2005	Benzotropine	1	30			4.53	1.13	0.04	(0.08)	0.15	0.03
8/16/2005	Bupropion	75	45	21.08	0.47						
9/22/2005	Bupropion	75	45			10.61	7.21	0.16	(0.31)	0.24	(0.23)
8/1/2005	Bupropion	100	30	18.75	0.63						
9/22/2005	Bupropion	100	45			11.16	7.76	0.17	(0.45)	0.25	(0.38)
8/24/2005	Carbamazepine	200	23	6.44	0.28						
9/22/2005	Carbamazepine	200	120			8.31	4.91	0.04	(0.24)	0.07	(0.21)

Appendix A

8/24/2005	Carbamazepine Chewable	100	30	4.45	0.15							
9/8/2005	Carbamazepine Chewable	100	120			12.82	9.42	0.08	(0.07)	0.11	(0.04)	
8/16/2005	Celexa	40	8	20.44	2.56							
9/22/2005	Celexa	40	8			22.08	18.68	2.34	(0.22)	2.76	0.21	
8/1/2005	Cephalexin	500	28	24.54	0.88							
9/2/2005	Cephalexin	500	28			5.70	2.3	0.08	(0.79)	0.20	(0.67)	
8/24/2005	Clindamycin	150	56	43.36	0.77							
9/1/2005	Clindamycin	150	56			11.15	7.75	0.14	(0.64)	0.20	(0.58)	
8/1/2005	Clonidine HCl	0.1	30	4.07	0.14							
9/15/2005	Clonidine HCl	0.1	45			5.53	2.13	0.05	(0.09)	0.12	(0.01)	
8/4/2005	Clonidine HCl	0.2	30	6.02	0.20							
9/15/2005	Clonidine HCl	0.2	30			5.37	1.97	0.07	(0.14)	0.18	(0.02)	
8/1/2005	Docusate Sodium	100	30	0.58	0.02							
9/1/2005	Docusate Sodium	100	30			3.77	0.37	0.01	(0.01)	0.13	0.11	
8/1/2005	Fluoxetine	10	15	8.67	0.58							
9/1/2005	Fluoxetine	10	45			26.01	22.61	0.50	(0.08)	0.58	0.00	
8/1/2005	Fluoxetine	20	30	15.68	0.52							
8/1/2005	Fluoxetine	20	15	7.84	0.52							
8/1/2005	Fluoxetine	20	18	9.41	0.52							
9/1/2005	Fluoxetine	20	45			23.52	20.12	0.45	(0.08)	0.52	(0.00)	
9/1/2005	Fluoxetine	20	15			7.84	4.44	0.30	(0.23)	0.52	(0.00)	
9/1/2005	Fluoxetine	20	30			15.68	12.28	0.41	(0.11)	0.52	(0.00)	
8/1/2005	Gabapentin	300	30	25.96	0.87							
9/1/2005	Gabapentin	300	135			30.39	26.99	0.20	(0.67)	0.23	(0.64)	
8/1/2005	Gabapentin	600	30	49.32	1.64							
9/1/2005	Gabapentin	600	30			31.96	28.56	0.95	(0.69)	1.07	(0.58)	
8/3/2005	Gabapentin	800	60	118.34	1.97							
9/1/2005	Gabapentin	800	45			57.31	53.91	1.20	(0.77)	1.27	(0.70)	
8/8/2005	Geodon	60	30	144.27	4.81							
9/1/2005	Geodon	60	30			135.26	131.86	4.40	(0.41)	4.51	(0.30)	
8/1/2005	HCTZ	25	30	1.55	0.05							
9/1/2005	HCTZ	25	15			3.68	0.28	0.02	(0.03)	0.25	0.19	
8/9/2005	Ibuprofen	400	30	3.31	0.11							
9/1/2005	Ibuprofen	400	30			3.90	0.5	0.02	(0.09)	0.13	0.02	
8/1/2005	Ibuprofen	800	30	5.94	0.20							
8/1/2005	Ibuprofen	800	45	8.91	0.20							
8/1/2005	Ibuprofen	800	12	2.38	0.20							
9/1/2005	Ibuprofen	800	45			8.91	5.51	0.12	(0.08)	0.20	(0.00)	
9/1/2005	Ibuprofen	800	12			3.79	0.39	0.03	(0.17)	0.32	0.12	
9/2/2005	Ibuprofen	800	45			4.86	1.46	0.03	(0.17)	0.11	(0.09)	
8/1/2005	Paroxetine	20	38	63.21	1.66							
9/1/2005	Paroxetine	20	23			38.26	34.86	1.52	(0.15)	1.66	0.00	
8/1/2005	Paroxetine	30	30	52.22	1.74							
9/1/2005	Paroxetine	30	15			26.11	22.71	1.51	(0.23)	1.74	0.00	
8/1/2005	Paroxetine	40	15	27.45	1.83							
9/1/2005	Paroxetine	40	15			27.45	24.05	1.60	(0.23)	1.83	0.00	
8/1/2005	Phenytoin	100	75	14.55	0.19							
9/1/2005	Phenytoin	100	90			18.45	15.05	0.17	(0.03)	0.21	0.01	
8/1/2005	Prilosec OTC	20	15	8.12	0.54							
8/1/2005	Prilosec OTC	20	6	3.25	0.54							
9/1/2005	Prilosec OTC	20	30			18.54	15.14	0.50	(0.04)	0.62	0.08	
9/1/2005	Prilosec OTC	20	15			10.97	7.57	0.50		0.73	0.19	
8/1/2005	Risperdal	1	8	26.86	3.36					0.00		
9/1/2005	Risperdal	1	8			27.64	24.24	3.03	(0.33)	3.46	0.10	

Appendix A

8/1/2005	Risperdal	2	8	42.06	5.26							
9/22/2005	Risperdal	2	8			41.82	38.42	4.80	(0.46)	5.23	(0.03)	
8/23/2005	Risperdal	3	15	97.17	6.48							
9/22/2005	Risperdal	3	15			88.02	84.62	5.64	(0.84)	5.87	(0.61)	
8/8/2005	Risperdal	4	30	261.03	8.70							
9/1/2005	Risperdal	4	30			230.72	227.32	7.58	(1.12)	7.69	(1.01)	
8/1/2005	Seroquel	200	60	335.65	5.59							
9/1/2005	Seroquel	200	30			156.79	153.39	5.11	(0.48)	5.23	(0.37)	
8/1/2005	Seroquel	300	30	220.05	7.34							
9/22/2005	Seroquel	300	30			204.51	201.11	6.70	(0.63)	6.82	(0.52)	
8/31/2005	Synthroid	0.175	30	15.56	0.52							
9/22/2005	Synthroid	0.175	30			14.97	11.57	0.39	(0.13)	0.50	(0.02)	
8/23/2005	Tetracycline	250	30	1.08	0.04							
9/1/2005	Tetracycline	250	30			4.26	0.86	0.03	(0.01)	0.14	0.11	
8/23/2005	Toprol XL	100	15	18.22	1.21							
9/22/2005	Toprol XL	100	15			19.39	15.99	1.07	(0.15)	1.29	0.08	
8/23/2005	Tramadol	50	30	16.24	0.54							
9/22/2005	Tramadol	50	36			4.50	1.1	0.03	(0.51)	0.13	(0.42)	
8/23/2005	Trifluoperazine	10	30	42.08	1.40							
9/22/2005	Trifluoperazine	10	30			21.41	18.01	0.60	(0.80)	0.71	(0.69)	
8/1/2005	Trileptal	300	15	30.62	2.04							
9/22/2005	Trileptal	300	45			87.36	83.96	1.87	(0.18)	1.94	(0.10)	
8/8/2005	Trileptal	600	15	56.28	3.75							
9/1/2005	Trileptal	600	15			56.28	52.88	3.53	(0.23)	3.75	0.00	
8/23/2005	Valproic Acid	250	6	3.22	0.54							
8/23/2005	Valproic Acid	250	60	32.18	0.54							
8/23/2005	Valproic Acid	250	75	40.22	0.54							
8/23/2005	Valproic Acid	250	90	48.27	0.54							
8/23/2005	Valproic Acid	250	120	64.36	0.54							
9/1/2005	Valproic Acid	250	120			23.15	19.75	0.16	(0.37)	0.19	(0.34)	
9/22/2005	Valproic Acid	250	30			8.34	4.94	0.16		0.28	(0.26)	
9/22/2005	Valproic Acid	250	60			13.28	9.88	0.16		0.22	(0.32)	
9/22/2005	Valproic Acid	250	75			15.75	12.35	0.16		0.21	(0.33)	
9/22/2005	Valproic Acid	250	90			18.21	14.81	0.16		0.20	(0.33)	
8/29/2005	Warfarin Sod	5	15	6.21	0.41							
9/12/2005	Warfarin Sod	5	4			4.03	0.63	0.16	(0.26)	1.01	0.59	
8/18/2005	Warfarin Sod	7.5	8	4.86	0.61							
9/8/2005	Warfarin Sod	7.5	15			6.85	3.45	0.23	(0.38)	0.46	(0.15)	
8/9/2005	Zithromax	250	6	44.63	7.44							
8/15/2005	Zithromax	250	10	74.38	7.44							
9/9/2005	Zithromax	250	10			71.38	67.98	6.80	(0.64)	7.14	(0.30)	
9/22/2005	Zithromax	250	4			30.59	27.19	6.80	(0.64)	7.65	0.21	
8/23/2005	Zocor	20	15	66.73	4.45							
9/1/2005	Zocor	20	15			64.38	60.98	4.07	(0.38)	4.29	(0.16)	
8/23/2005	Zocor	40	15	66.73	4.45							
9/22/2005	Zocor	40	15			64.38	60.98	4.07	(0.38)	4.29	(0.16)	
8/23/2005	Zoloft	100	30	77.84	2.59							
9/22/2005	Zoloft	100	23			57.94	54.54	2.37	(0.22)	2.52	(0.08)	
8/1/2005	Zyprexa	20	14	249.30	17.81							
9/6/2005	Zyprexa	20	15			260.73	257.33	17.16	(0.65)	17.38	(0.43)	
8/3/2005	Zyrtec	10	15	29.79	1.99							
9/1/2005	Zyrtec	10	15			30.63	27.23	1.82	(0.17)	2.04	0.06	

Appendix B
High Price Drugs - Percent Increase/Decrease 2004 to 2006

Drug Name	Dosage	Price Per Dose				Quantity				Total Expenditure			
		Dec-04	Mar-06	Change	Percent Change	Dec-04	Mar-06	Change	Percent Change	Dec-04	Mar-06	Change	Percent Change
Fluconazole	100	\$ 5.69	\$ 0.32	\$ (5.37)	-94.4%	60	150	90	150.0%	\$ 341.40	\$ 48.00	(293.40)	-85.9%
Fluconazole	200	\$ 9.31	\$ 2.56	\$ (6.75)	-72.5%	42	15	(27)	-64.3%	\$ 391.02	\$ 38.40	(352.62)	-90.2%
Zithromax/Azithromycin*	600	\$ 17.00	\$ 10.48	\$ (6.52)	-38.4%	4	132	128	3200.0%	\$ 68.00	\$ 1,383.36	1,315.36	1934.4%
Zithromax/Azithromycin*	250	\$ 7.08	\$ 4.47	\$ (2.61)	-36.9%	296	96	(200)	-67.6%	\$ 2,095.68	\$ 429.12	(1,666.56)	-79.5%
Actos	45	\$ 5.63	\$ 5.46	\$ (0.17)	-3.0%	15	30	15	100.0%	\$ 84.45	\$ 163.80	79.35	94.0%
Viread	300	\$ 14.26	\$ 13.87	\$ (0.39)	-2.7%	53	45	(8)	-15.1%	\$ 755.78	\$ 624.15	(131.63)	-17.4%
Abilify	10	\$ 9.90	\$ 9.88	\$ (0.02)	-0.2%	15	16	1	6.7%	\$ 148.50	\$ 158.08	9.58	6.5%
Zerit	40	\$ 5.38	\$ 5.37	\$ (0.01)	-0.2%	90	30	(60)	-66.7%	\$ 484.20	\$ 161.10	(323.10)	-66.7%
Cumulative Subtotal - Decreased in Price		\$ 74.25	\$ 52.41	\$ (21.84)	-29.4%	575	514	-61	-10.6%	\$ 4,369.03	\$ 3,006.01	(1,363.02)	-31.20%

Diflucan	100	\$ 8.41	\$ 9.36	\$ 0.95	11.3%	120	30	(90)	-75.0%	\$ 1,009.20	\$ 280.80	(728.40)	-72.2%
Risperdal	2	\$ 5.26	\$ 5.50	\$ 0.24	4.6%	740	743	3	0.4%	\$ 3,892.40	\$ 4,086.50	194.10	5.0%
Risperdal	3	\$ 6.18	\$ 6.22	\$ 0.04	0.6%	139	378	239	171.9%	\$ 859.02	\$ 2,351.16	1,492.14	173.7%
Risperdal	4	\$ 8.30	\$ 8.39	\$ 0.09	1.1%	784	494	(290)	-37.0%	\$ 6,507.20	\$ 4,144.66	(2,362.54)	-36.3%
Viramune	200	\$ 6.07	\$ 6.29	\$ 0.22	3.6%	270	210	(60)	-22.2%	\$ 1,638.90	\$ 1,320.90	(318.00)	-19.4%
Combivir	150/300	\$ 10.30	\$ 10.77	\$ 0.47	4.6%	30	180	150	500.0%	\$ 309.00	\$ 1,938.60	1,629.60	527.4%
Seroquel	300	\$ 6.92	\$ 7.27	\$ 0.35	5.1%	683	800	117	17.1%	\$ 4,726.36	\$ 5,816.00	1,089.64	23.1%
Seroquel	200	\$ 5.28	\$ 5.63	\$ 0.35	6.6%	479	603	124	25.9%	\$ 2,529.12	\$ 3,394.89	865.77	34.2%
Imitrex	25	\$ 18.13	\$ 19.58	\$ 1.45	8.0%	9	90	81	900.0%	\$ 163.17	\$ 1,762.20	1,599.03	980.0%
Levaquin	500	\$ 9.54	\$ 10.41	\$ 0.87	9.1%	107	175	68	63.6%	\$ 1,020.78	\$ 1,821.75	800.97	78.5%
Zyprexa	5	\$ 6.17	\$ 6.88	\$ 0.71	11.5%	30	7	(23)	-76.7%	\$ 185.10	\$ 48.16	(136.94)	-74.0%
Zyprexa	15	\$ 13.38	\$ 14.61	\$ 1.23	9.2%	79	45	(34)	-43.0%	\$ 1,057.02	\$ 657.45	(399.57)	-37.8%
Zyprexa	20	\$ 17.81	\$ 19.46	\$ 1.65	9.3%	90	30	(60)	-66.7%	\$ 1,602.90	\$ 583.80	(1,019.10)	-63.6%
Flovent Inhaler	110	\$ 6.32	\$ 7.31	\$ 0.99	15.7%	52	12	(40)	-76.9%	\$ 328.64	\$ 87.72	(240.92)	-73.3%
Cumulative Subtotal - Increased in Price		\$ 128.07	\$ 137.68	\$ 9.61	7.50%	3,612	3,797	185	5.1%	\$ 25,828.81	\$ 28,294.59	2,465.78	9.55%

Total Quantity Purchased	4,187	4,311	124	2.96%
Total Monthly Expenditure (Quantity ordered times per-dose price)	\$ 30,197.84	\$ 31,300.60	\$ 1,102.76	3.65%
Weighted Average Per-Dose Price (Total Monthly Expenditure divided by Total Quantity Purchased)	\$ 7.21	\$ 7.26	\$ 0.05	0.67%

Increase in Quantity	124
Percent increase in Quantity	2.96%

*Note: Zithromax only prescribed in 2004, Azithromycin (generic) only prescribed in 2006.

Increase in Monthly Expenditure	\$ 1,102.76
Percent Increase in Monthly Expenditure	3.65%

Increase in weighted average per-dose price	\$ 0.05
Increase in weighted average per-dose percent	0.67%

Appendix C
Mid-Price Drugs - Percent Increase/Decrease 2004 to 2006

Drug Name	Dosage	Cost Per Dose				Quantity				Total Expenditures			
		Dec-04	Mar-06	Change	Percent Change	Dec-04	Mar-06	Change	Percent Change	Dec-04	Mar-06	Change	Percent Change
Prevacid	30	\$ 4.27	\$ 4.23	\$ (0.04)	-0.9%	60	75	15	25.0%	\$ 256.20	\$ 317.25	61.05	23.8%
Advair	250/50	\$ 2.42	\$ 2.34	\$ (0.08)	-3.3%	300	480	180	60.0%	\$ 726.00	\$ 1,123.20	397.20	54.7%
Nifedipine	60	\$ 1.46	\$ 1.25	\$ (0.21)	-14.4%	15	15	0	0.0%	\$ 21.90	\$ 18.75	(3.15)	-14.4%
Prednisolone AC	1%	\$ 1.64	\$ 1.34	\$ (0.30)	-18.3%	5	15	10	200.0%	\$ 8.20	\$ 20.10	11.90	145.1%
Albuterol	90	\$ 1.14	\$ 0.90	\$ (0.24)	-21.1%	1,411	1,173	(238)	-16.9%	\$ 1,608.54	\$ 1,055.70	(552.84)	-34.4%
Accupril/Quinapril	10	\$ 1.17	\$ 0.88	\$ (0.29)	-24.8%	75	255	180	240.0%	\$ 87.75	\$ 224.40	136.65	155.7%
Accupril/Quinapril	20	\$ 1.17	\$ 0.90	\$ (0.27)	-23.1%	75	15	(60)	-80.0%	\$ 87.75	\$ 13.50	(74.25)	-84.6%
Accupril/Quinapril	40	\$ 1.17	\$ 0.90	\$ (0.27)	-23.1%	30	30	0	0.0%	\$ 35.10	\$ 27.00	(8.10)	-23.1%
Carb/Levo	50/200	\$ 1.18	\$ 0.82	\$ (0.36)	-30.5%	180	30	(150)	-83.3%	\$ 212.40	\$ 24.60	(187.80)	-88.4%
Nitrofur	100	\$ 1.32	\$ 0.85	\$ (0.47)	-35.6%	140	210	70	50.0%	\$ 184.80	\$ 178.50	(6.30)	-3.4%
Neo/Poly/HC Otic		\$ 2.00	\$ 1.15	\$ (0.85)	-42.5%	10	10	0	0.0%	\$ 20.00	\$ 11.50	(8.50)	-42.5%
Rifampin	300	\$ 1.24	\$ 0.63	\$ (0.61)	-49.2%	75	90	15	20.0%	\$ 93.00	\$ 56.70	(36.30)	-39.0%
Dicloxacillin	500	\$ 1.03	\$ 0.52	\$ (0.51)	-49.5%	492	550	58	11.8%	\$ 506.76	\$ 286.00	(220.76)	-43.6%
Amox./Clav	875	\$ 3.28	\$ 1.35	\$ (1.93)	-58.8%	351	559	208	59.3%	\$ 1,151.28	\$ 754.65	(396.63)	-34.5%
Paxil/Paroxetine	30	\$ 1.74	\$ 0.64	\$ (1.10)	-63.2%	423	339	(84)	-19.9%	\$ 736.02	\$ 216.96	(519.06)	-70.5%
Paxil/Paroxetine	40	\$ 1.83	\$ 1.08	\$ (0.75)	-41.0%	1,148	700	(448)	-39.0%	\$ 2,100.84	\$ 756.00	(1344.84)	-64.0%
Terazosin	5	\$ 1.02	\$ 0.32	\$ (0.70)	-68.6%	90	60	(30)	-33.3%	\$ 91.80	\$ 19.20	(72.60)	-79.1%
Neurontin/Gabapentin	400	\$ 1.04	\$ 0.24	\$ (0.80)	-76.9%	90	1,560	1470	1633.3%	\$ 93.60	\$ 374.40	280.80	300.0%
Neurontin/Gabapentin	600	\$ 1.64	\$ 0.63	\$ (1.01)	-61.6%	255	1,421	1166	457.3%	\$ 418.20	\$ 895.23	477.03	114.1%
Neurontin/Gabapentin	800	\$ 2.90	\$ 0.71	\$ (2.19)	-75.5%	225	540	315	140.0%	\$ 652.50	\$ 383.40	(269.10)	-41.2%
Promethegan	25	\$ 2.82	\$ 0.63	\$ (2.19)	-77.7%	23	37	14	60.9%	\$ 64.86	\$ 23.31	(41.55)	-64.1%
Acyclovir	400	\$ 1.23	\$ 0.18	\$ (1.05)	-85.4%	120	90	(30)	-25.0%	\$ 147.60	\$ 16.20	(131.40)	-89.0%
Cipro/ciprofloxacin	500	\$ 3.32	\$ 0.20	\$ (3.12)	-94.0%	20	139	119	595.0%	\$ 66.40	\$ 27.80	(38.60)	-58.1%
Cumulative Subtotal - Decreased Price		\$ 42.03	\$ 22.69	\$ (19.34)	-46.0%	5,613	8,393	2780	49.5%	\$ 9,371.50	\$ 6,824.35	(2547.15)	-27.2%

Beconase Aq	0.04%	2.78	3.46	\$ 0.68	24.5%	125	25	(100)	-80.0%	\$ 347.50	\$ 86.50	(261.00)	-75.1%
Combivent Inhaler		4.18	5.18	\$ 1.00	23.9%	45	120	75	166.7%	\$ 188.10	\$ 621.60	433.50	230.5%
Depakote	250	1.12	1.33	\$ 0.21	18.8%	60	364	304	506.7%	\$ 67.20	\$ 484.12	416.92	620.4%
Cozaar	50	1.49	1.76	\$ 0.27	18.1%	10	15	5	50.0%	\$ 14.90	\$ 26.40	11.50	77.2%
Zocor	10	2.36	2.75	\$ 0.39	16.5%	30	75	45	150.0%	\$ 70.80	\$ 206.25	135.45	191.3%
Zocor	20	4.27	4.52	\$ 0.25	5.9%	105	120	15	14.3%	\$ 448.35	\$ 542.40	94.05	21.0%
Flomax	0.4	1.78	2.07	\$ 0.29	16.3%	90	90	0	0.0%	\$ 160.20	\$ 186.30	26.10	16.3%
Azmecort		4.15	4.77	\$ 0.62	14.9%	80	20	(60)	-75.0%	\$ 332.00	\$ 95.40	(236.60)	-71.3%
Norvasc	5	1.42	1.63	\$ 0.21	14.8%	180	210	30	16.7%	\$ 255.60	\$ 342.30	86.70	33.9%
Lipitor	20	3.22	3.67	\$ 0.45	14.0%	96	64	(32)	-33.3%	\$ 309.12	\$ 234.88	(74.24)	-24.0%

Appendix C
Mid-Price Drugs - Percent Increase/Decrease 2004 to 2006

Drug Name	Dosage	Cost Per Dose				Quantity				Total Expenditures			
		Dec-04	Mar-06	Change	Percent Change	Dec-04	Mar-06	Change	Percent Change	Dec-04	Mar-06	Change	Percent Change
Lipitor	40	3.22	3.60	\$ 0.38	11.8%	23	47	24	104.3%	\$ 74.06	\$ 169.20	95.14	128.5%
Lipitor	80	3.22	3.67	\$ 0.45	14.0%	30	16	(14)	-46.7%	\$ 96.60	\$ 58.72	(37.88)	-39.2%
Benicar	20	1.44	1.64	\$ 0.20	13.9%	44	40	(4)	-9.1%	\$ 63.36	\$ 65.60	2.24	3.5%
Zetia	10	2.32	2.59	\$ 0.27	11.6%	30	15	(15)	-50.0%	\$ 69.60	\$ 38.85	(30.75)	-44.2%
Seroquel	25	1.60	1.79	\$ 0.19	11.9%	135	60	(75)	-55.6%	\$ 216.00	\$ 107.40	(108.60)	-50.3%
Seroquel	100	2.80	3.11	\$ 0.31	11.1%	225	97	(128)	-56.9%	\$ 630.00	\$ 301.67	(328.33)	-52.1%
Trileptal	300	1.88	2.00	\$ 0.12	6.4%	345	465	120	34.8%	\$ 648.60	\$ 930.00	281.40	43.4%
Trileptal	600	3.46	3.84	\$ 0.38	11.0%	135	105	(30)	-22.2%	\$ 467.10	\$ 403.20	(63.90)	-13.7%
Norvasc	10	1.95	2.16	\$ 0.21	10.8%	135	90	(45)	-33.3%	\$ 263.25	\$ 194.40	(68.85)	-26.2%
Depakote	500	2.06	2.28	\$ 0.22	10.7%	777	701	(76)	-9.8%	\$ 1,600.62	\$ 1,598.28	(2.34)	-0.1%
Effexor	75	1.77	1.93	\$ 0.16	9.0%	1046	914	(132)	-12.6%	\$ 1,851.42	\$ 1,764.02	(87.40)	-4.7%
Prempro	.625/2.5	1.28	1.39	\$ 0.11	8.6%	56	56	0	0.0%	\$ 71.68	\$ 77.84	6.16	8.6%
Flonase	0.05%	\$ 3.97	\$ 4.28	\$ 0.31	7.81%	32	144	112	350.0%	\$ 127.04	\$ 616.32	489.28	385.1%
Zoloft	100	\$ 2.47	\$ 2.66	\$ 0.19	7.69%	983	670	(313)	-31.8%	\$ 2,428.01	\$ 1,782.20	(645.81)	-26.6%
Geodon	80	\$ 4.58	\$ 4.93	\$ 0.35	7.64%	825	1,071	246	29.8%	\$ 3,778.50	\$ 5,280.03	1501.53	39.7%
Geodon	40	\$ 4.21	\$ 4.52	\$ 0.31	7.36%	165	90	(75)	-45.5%	\$ 694.65	\$ 406.80	(287.85)	-41.4%
Plavix	75	\$ 3.91	\$ 4.15	\$ 0.24	6.14%	770	75	(695)	-90.3%	\$ 3,010.70	\$ 311.25	(2699.45)	-89.7%
Topamax	25	\$ 1.58	\$ 1.64	\$ 0.06	3.80%	90	300	210	233.3%	\$ 142.20	\$ 492.00	349.80	246.0%
Epivir	150	\$ 4.75	\$ 4.91	\$ 0.16	3.37%	225	90	(135)	-60.0%	\$ 1,068.75	\$ 441.90	(626.85)	-58.7%
Coreg	6.25	\$ 1.64	\$ 1.67	\$ 0.03	1.83%	50	30	(20)	-40.0%	\$ 82.00	\$ 50.10	(31.90)	-38.9%
Coreg	12.5	\$ 1.64	\$ 1.71	\$ 0.07	4.27%	60	75	15	25.0%	\$ 98.40	\$ 128.25	29.85	30.3%
Coreg	25	\$ 1.64	\$ 1.67	\$ 0.03	1.83%	70	60	(10)	-14.3%	\$ 114.80	\$ 100.20	(14.60)	-12.7%
Avandia	4	\$ 2.70	\$ 2.71	\$ 0.01	0.37%	210	15	(195)	-92.9%	\$ 567.00	\$ 40.65	(526.35)	-92.8%
Cumulative Subtotal - Increased Price		\$ 86.86	\$ 95.99	\$ 9.13	10.51%	7,282	6,329	(953)	-13.1%	\$ 20,358.11	\$ 18,185.03	(2173.08)	-10.7%

Total Quantity Purchased	12,895	14,722	1,827	14.2%
Total Monthly Expenditure (Quantity ordered times per-dose price)	\$ 29,729.61	\$ 25,009.38	\$ (4,720.23)	-15.9%
Weighted Average Per-Dose Price (Total Monthly Expenditure / Total Quantity Purchased)	\$ 2.31	\$ 1.70	\$ (0.61)	-26.32%

Appendix D
Medications with a Per-Dose Price less than \$1.00

Drug Name	Dosage	Price Per Dose				Quantity				Total Expenditure			
		Dec - 04	Mar - 06	Change	Percent Change	Dec - 04	Mar - 06	Change	Percent Change	Dec - 04	Mar - 06	Change	Percent Change
Asacol	400	\$ 0.95	\$ 0.94	\$ (0.01)	-1.05%	60	540	480	800.00%	\$ 57.00	\$ 507.60	\$ 450.60	790.53%
Clonidine HCL	0.2	\$ 0.20	\$ 0.19	\$ (0.01)	-5.00%	75	329	254	338.67%	\$ 15.00	\$ 62.51	\$ 47.51	316.73%
Spironolactone	25	\$ 0.27	\$ 0.25	\$ (0.02)	-7.41%	120	105	(15)	-12.50%	\$ 32.40	\$ 26.25	(6.15)	-18.98%
Chlorpromazine	100	\$ 0.39	\$ 0.36	\$ (0.03)	-7.69%	238	60	(178)	-74.79%	\$ 92.82	\$ 21.60	(71.22)	-76.73%
Ibuprofen	800	\$ 0.20	\$ 0.18	\$ (0.02)	-10.00%	10,438	7,975	(2,463)	-23.60%	\$ 2,087.60	\$ 1,435.50	(652.10)	-31.24%
Clotrimazole Cream	1%	\$ 0.20	\$ 0.16	\$ (0.04)	-20.00%	720	285	(435)	-60.42%	\$ 144.00	\$ 45.60	(98.40)	-68.33%
Haloperidol	2	\$ 0.41	\$ 0.32	\$ (0.09)	-21.95%	75	45	(30)	-40.00%	\$ 30.75	\$ 14.40	(16.35)	-53.17%
Potassium Chloride	10meq	\$ 0.18	\$ 0.14	\$ (0.04)	-22.22%	60	60	0	0.00%	\$ 10.80	\$ 8.40	(2.40)	-22.22%
Penicillin VK	500	\$ 0.25	\$ 0.19	\$ (0.06)	-24.00%	3,200	2,562	(638)	-19.94%	\$ 800.00	\$ 486.78	(313.22)	-39.15%
Furosemide	80	\$ 0.28	\$ 0.21	\$ (0.07)	-25.00%	120	90	(30)	-25.00%	\$ 33.60	\$ 18.90	(14.70)	-43.75%
Propranolol	10	\$ 0.18	\$ 0.12	\$ (0.06)	-33.33%	762	870	108	14.17%	\$ 137.16	\$ 104.40	(32.76)	-23.88%
Amitriptyline	50	\$ 0.39	\$ 0.24	\$ (0.15)	-38.46%	607	735	128	21.09%	\$ 236.73	\$ 176.40	(60.33)	-25.48%
Bupropion	75	\$ 0.47	\$ 0.28	\$ (0.19)	-40.43%	4,023	2,199	(1,824)	-45.34%	\$ 1,890.81	\$ 615.72	(1,275.09)	-67.44%
Allopurinol	300	\$ 0.43	\$ 0.24	\$ (0.19)	-44.19%	240	105	(135)	-56.25%	\$ 103.20	\$ 25.20	(78.00)	-75.58%
Metronidazole	500	\$ 0.45	\$ 0.25	\$ (0.20)	-44.44%	405	88	(317)	-78.27%	\$ 182.25	\$ 22.00	(160.25)	-87.93%
Glipizide	10	\$ 0.37	\$ 0.20	\$ (0.17)	-45.95%	375	120	(255)	-68.00%	\$ 138.75	\$ 24.00	(114.75)	-82.70%
Amoxicillin	500	\$ 0.26	\$ 0.14	\$ (0.12)	-46.15%	568	505	(63)	-11.09%	\$ 147.68	\$ 70.70	(76.98)	-52.13%
Glyburide	2.5	\$ 0.30	\$ 0.16	\$ (0.14)	-46.67%	180	75	(105)	-58.33%	\$ 54.00	\$ 12.00	(42.00)	-77.78%
Acticin Cream	5%	\$ 0.32	\$ 0.17	\$ (0.15)	-46.88%	60	120	60	100.00%	\$ 19.20	\$ 20.40	1.20	6.25%
Lisinopril	20	\$ 0.68	\$ 0.36	\$ (0.32)	-47.06%	953	812	(141)	-14.80%	\$ 648.04	\$ 292.32	(355.72)	-54.89%
Atenolol	50	\$ 0.52	\$ 0.26	\$ (0.26)	-50.00%	270	285	15	5.56%	\$ 140.40	\$ 74.10	(66.30)	-47.22%
Chlorhexidine	.12% Rinse	\$ 0.02	\$ 0.01	\$ (0.01)	-50.00%	2,838	3,318	480	16.91%	\$ 56.76	\$ 33.18	(23.58)	-41.54%
Propranolol	20	\$ 0.22	\$ 0.11	\$ (0.11)	-50.00%	631	540	(91)	-14.42%	\$ 138.82	\$ 59.40	(79.42)	-57.21%
Verapamil SR	180	\$ 0.88	\$ 0.43	\$ (0.45)	-51.14%	30	30	0	0.00%	\$ 26.40	\$ 12.90	(13.50)	-51.14%
Bupropion	100	\$ 0.63	\$ 0.30	\$ (0.33)	-52.38%	555	2,036	1,481	266.85%	\$ 349.65	\$ 610.80	261.15	74.69%
Lisinopril	10	\$ 0.63	\$ 0.30	\$ (0.33)	-52.38%	1,056	1,012	(44)	-4.17%	\$ 665.28	\$ 303.60	(361.68)	-54.37%
Carbamazepine	200	\$ 0.28	\$ 0.13	\$ (0.15)	-53.57%	424	1,143	719	169.58%	\$ 118.72	\$ 148.59	29.87	25.16%
Amitriptyline	75	\$ 0.57	\$ 0.26	\$ (0.31)	-54.39%	90	60	(30)	-33.33%	\$ 51.30	\$ 15.60	(35.70)	-69.59%
Fluoxetine	10	\$ 0.53	\$ 0.24	\$ (0.29)	-54.72%	69	128	59	85.51%	\$ 36.57	\$ 30.72	(5.85)	-16.00%
Fluoxetine	20	\$ 0.52	\$ 0.23	\$ (0.29)	-55.77%	1,275	2,369	1,094	85.80%	\$ 663.00	\$ 544.87	(118.13)	-17.82%
Amitriptyline	150	\$ 0.76	\$ 0.31	\$ (0.45)	-59.21%	45	135	90	200.00%	\$ 34.20	\$ 41.85	7.65	22.37%
Indomethacin	25	\$ 0.25	\$ 0.10	\$ (0.15)	-60.00%	60	180	120	200.00%	\$ 15.00	\$ 18.00	3.00	20.00%
Sulfatrim DS		\$ 0.55	\$ 0.22	\$ (0.33)	-60.00%	395	1,084	689	174.43%	\$ 217.25	\$ 238.48	21.23	9.77%
Amitriptyline	100	\$ 0.72	\$ 0.27	\$ (0.45)	-62.50%	255	300	45	17.65%	\$ 183.60	\$ 81.00	(102.60)	-55.88%
Metoprolol	50	\$ 0.35	\$ 0.13	\$ (0.22)	-62.86%	270	465	195	72.22%	\$ 94.50	\$ 60.45	(34.05)	-36.03%
Atenolol	100	\$ 0.81	\$ 0.28	\$ (0.53)	-65.43%	60	195	135	225.00%	\$ 48.60	\$ 54.60	6.00	12.35%
Lisinopril	40	\$ 0.99	\$ 0.34	\$ (0.65)	-65.66%	473	360	(113)	-23.89%	\$ 468.27	\$ 122.40	(345.87)	-73.86%
Hydroxyzine	25	\$ 0.54	\$ 0.17	\$ (0.37)	-68.52%	90	240	150	166.67%	\$ 48.60	\$ 40.80	(7.80)	-16.05%
Metoprolol	100	\$ 0.49	\$ 0.15	\$ (0.34)	-69.39%	105	120	15	14.29%	\$ 51.45	\$ 18.00	(33.45)	-65.01%
Enalapril	10	\$ 0.70	\$ 0.21	\$ (0.49)	-70.00%	45	60	15	33.33%	\$ 31.50	\$ 12.60	(18.90)	-60.00%
Neurontin/Gabapentin	300	\$ 0.87	\$ 0.26	\$ (0.61)	-70.11%	570	1,716	1,146	201.05%	\$ 495.90	\$ 446.16	(49.74)	-10.03%
Metformin	500	\$ 0.46	\$ 0.13	\$ (0.33)	-71.74%	1,125	960	(165)	-14.67%	\$ 517.50	\$ 124.80	(392.70)	-75.88%
Naproxen	500	\$ 0.73	\$ 0.20	\$ (0.53)	-72.60%	416	647	231	55.53%	\$ 303.68	\$ 129.40	(174.28)	-57.39%
CDP	25	\$ 0.16	\$ 0.04	\$ (0.12)	-75.00%	390	360	(30)	-7.69%	\$ 62.40	\$ 14.40	(48.00)	-76.92%
Hydrocodone/Apap	5/500	\$ 0.13	\$ 0.03	\$ (0.10)	-76.92%	90	510	420	466.67%	\$ 11.70	\$ 15.30	3.60	30.77%
Cyclobenzaprine	10	\$ 0.67	\$ 0.15	\$ (0.52)	-77.61%	303	311	8	2.64%	\$ 203.01	\$ 46.65	(156.36)	-77.02%
Clindamycin	150	\$ 0.77	\$ 0.17	\$ (0.60)	-77.92%	1,624	2,570	946	58.25%	\$ 1,250.48	\$ 436.90	(813.58)	-65.06%
Metformin	850	\$ 0.77	\$ 0.17	\$ (0.60)	-77.92%	330	30	(300)	-90.91%	\$ 254.10	\$ 5.10	(249.00)	-97.99%

Appendix D
Medications with a Per-Dose Price less than \$1.00

Drug Name	Dosage	Price Per Dose				Quantity				Total Expenditure			
		Dec - 04	Mar - 06	Change	Percent Change	Dec - 04	Mar - 06	Change	Percent Change	Dec - 04	Mar - 06	Change	Percent Change
Atenolol	25	\$ 0.50	\$ 0.11	\$ (0.39)	-78.00%	90	90	0	0.00%	\$ 45.00	\$ 9.90	(35.10)	-78.00%
Tramadol	50	\$ 0.50	\$ 0.11	\$ (0.39)	-78.00%	236	929	693	293.64%	\$ 118.00	\$ 102.19	(15.81)	-13.40%
Enalapril	20	\$ 0.99	\$ 0.21	\$ (0.78)	-78.79%	90	150	60	66.67%	\$ 89.10	\$ 31.50	(57.60)	-64.65%
Doxycycline	100	\$ 0.80	\$ 0.16	\$ (0.64)	-80.00%	444	443	(1)	-0.23%	\$ 355.20	\$ 70.88	(284.32)	-80.05%
Ranitidine	150	\$ 0.67	\$ 0.13	\$ (0.54)	-80.60%	265	120	(145)	-54.72%	\$ 177.55	\$ 15.60	(161.95)	-91.21%
Metformin	1000	\$ 0.94	\$ 0.17	\$ (0.77)	-81.91%	345	210	(135)	-39.13%	\$ 324.30	\$ 35.70	(288.60)	-88.99%
Hydrocodone/Apap	7.5/500	\$ 0.23	\$ 0.04	\$ (0.19)	-82.61%	450	240	(210)	-46.67%	\$ 103.50	\$ 9.60	(93.90)	-90.72%
Cephalexin	500	\$ 0.88	\$ 0.15	\$ (0.73)	-82.95%	1,700	722	(978)	-57.53%	\$ 1,496.00	\$ 108.30	(1,387.70)	-92.76%
Clobetasol	0.05%	\$ 0.94	\$ 0.15	\$ (0.79)	-84.04%	285	180	(105)	-36.84%	\$ 267.90	\$ 27.00	(240.90)	-89.92%
Clonazepam	1	\$ 0.56	\$ 0.03	\$ (0.53)	-94.64%	30	150	120	400.00%	\$ 16.80	\$ 4.50	(12.30)	-73.21%
Clonazepam	0.5	\$ 0.49	\$ 0.02	\$ (0.47)	-95.92%	30	120	90	300.00%	\$ 14.70	\$ 2.40	(12.30)	-83.67%
Enalapril	5	\$ 0.66	\$ 0.02	\$ (0.64)	-96.97%	150	210	60	40.00%	\$ 99.00	\$ 4.20	(94.80)	-95.76%
Cumulative Subtotal - Decreased in Price		\$ 30.86	\$ 12.00	\$ (18.86)	-61.11%	41,278	42,408	1,130	2.74%	\$ 16,507.48	\$ 8,153.10	(8,354.38)	-50.61%
Bisacodyl	5	\$ 0.02	\$ 0.62	\$ 0.60	3000.00%	150	17	(133)	-88.67%	\$ 3.00	\$ 10.54	\$ 7.54	251.33%
Ferrous Sulfate	325	\$ 0.01	\$ 0.17	\$ 0.16	1600.00%	225	360	135	60.00%	\$ 2.25	\$ 61.20	\$ 58.95	2620.00%
Aspirin	325	\$ 0.004	\$ 0.06	\$ 0.06	1400.00%	583	71	(512)	-87.82%	\$ 2.33	\$ 4.26	\$ 1.93	82.68%
Aspirin EC	81	\$ 0.004	\$ 0.06	\$ 0.06	1400.00%	15	465	450	3000.00%	\$ 0.06	\$ 27.90	\$ 27.84	46400.00%
Vitamin B-1	100	\$ 0.02	\$ 0.27	\$ 0.25	1250.00%	255	215	(40)	-15.69%	\$ 5.10	\$ 58.05	\$ 52.95	1038.24%
Aspirin/Aspirin	81	\$ 0.02	\$ 0.24	\$ 0.22	1100.00%	623	787	164	26.32%	\$ 12.46	\$ 188.88	\$ 176.42	1415.89%
Multi Vitamin Formula		\$ 0.02	\$ 0.23	\$ 0.21	1050.00%	352	120	(232)	-65.91%	\$ 7.04	\$ 27.60	\$ 20.56	292.05%
Pseudoephedrine	60	\$ 0.03	\$ 0.32	\$ 0.29	966.67%	72	36	(36)	-50.00%	\$ 2.16	\$ 11.52	\$ 9.36	433.33%
Diphenhydramine	50	\$ 0.02	\$ 0.18	\$ 0.16	800.00%	647	505	(142)	-21.95%	\$ 12.94	\$ 90.90	\$ 77.96	602.47%
Docusate Sodium	100	\$ 0.02	\$ 0.17	\$ 0.15	750.00%	956	1,034	78	8.16%	\$ 19.12	\$ 175.78	\$ 156.66	819.35%
Acetaminophen	500	\$ 0.01	\$ 0.08	\$ 0.07	700.00%	6,968	10,173	3,205	46.00%	\$ 69.68	\$ 813.84	\$ 744.16	1067.97%
Folic Acid	1	\$ 0.05	\$ 0.40	\$ 0.35	700.00%	396	422	26	6.57%	\$ 19.80	\$ 168.80	\$ 149.00	752.53%
Diphenhydramine	25	\$ 0.02	\$ 0.11	\$ 0.09	450.00%	30	180	150	500.00%	\$ 0.60	\$ 19.80	\$ 19.20	3200.00%
HCTZ	25	\$ 0.07	\$ 0.29	\$ 0.22	314.29%	1,308	1,690	382	29.20%	\$ 91.56	\$ 490.10	\$ 398.54	435.28%
Calc Antacid		\$ 0.02	\$ 0.07	\$ 0.05	250.00%	198	180	(18)	-9.09%	\$ 3.96	\$ 12.60	\$ 8.64	218.18%
Levothroid	0.1	\$ 0.18	\$ 0.60	\$ 0.42	233.33%	180	241	61	33.89%	\$ 32.40	\$ 144.60	\$ 112.20	346.30%
Prednisone	20	\$ 0.08	\$ 0.23	\$ 0.15	187.50%	75	185	110	146.67%	\$ 6.00	\$ 42.55	\$ 36.55	609.17%
Hydrocortisone	1%	\$ 0.05	\$ 0.14	\$ 0.09	180.00%	90	180	90	100.00%	\$ 4.50	\$ 25.20	\$ 20.70	460.00%
Prednisone	10	\$ 0.04	\$ 0.11	\$ 0.07	175.00%	84	233	149	177.38%	\$ 3.36	\$ 25.63	\$ 22.27	662.80%
Furosemide	20	\$ 0.09	\$ 0.21	\$ 0.12	133.33%	69	248	179	259.42%	\$ 6.21	\$ 52.08	\$ 45.87	738.65%
Prenatal Plus		\$ 0.11	\$ 0.25	\$ 0.14	127.27%	825	732	(93)	-11.27%	\$ 90.75	\$ 183.00	\$ 92.25	101.65%
Digoxin	0.25	\$ 0.14	\$ 0.30	\$ 0.16	114.29%	150	45	(105)	-70.00%	\$ 21.00	\$ 13.50	(7.50)	-35.71%
Promethazine	25	\$ 0.31	\$ 0.65	\$ 0.34	109.68%	247	187	(60)	-24.29%	\$ 76.57	\$ 121.55	\$ 44.98	58.74%
Levothroid	0.075	\$ 0.17	\$ 0.35	\$ 0.18	105.88%	75	60	(15)	-20.00%	\$ 12.75	\$ 21.00	\$ 8.25	64.71%
Moisturin Crème		\$ 0.03	\$ 0.06	\$ 0.03	100.00%	4,680	5,337	657	14.04%	\$ 140.40	\$ 320.22	\$ 179.82	128.08%
Levothroid	0.15	\$ 0.21	\$ 0.39	\$ 0.18	85.71%	56	15	(41)	-73.21%	\$ 11.76	\$ 5.85	(5.91)	-50.26%
Levothroid	0.125	\$ 0.21	\$ 0.38	\$ 0.17	80.95%	240	90	(150)	-62.50%	\$ 50.40	\$ 34.20	(16.20)	-32.14%
Furosemide	40	\$ 0.10	\$ 0.18	\$ 0.08	80.00%	331	465	134	40.48%	\$ 33.10	\$ 83.70	\$ 50.60	152.87%
Klor-Con	10meq	\$ 0.18	\$ 0.32	\$ 0.14	77.78%	135	157	22	16.30%	\$ 24.30	\$ 50.24	\$ 25.94	106.75%
Levothroid	0.05	\$ 0.20	\$ 0.34	\$ 0.14	70.00%	30	105	75	250.00%	\$ 6.00	\$ 35.70	\$ 29.70	495.00%
Metamucil SF	packet	\$ 0.23	\$ 0.39	\$ 0.16	69.57%	1,466	530	(936)	-63.85%	\$ 337.18	\$ 206.70	(130.48)	-38.70%
Allopurinol	100	\$ 0.16	\$ 0.26	\$ 0.10	62.50%	60	15	(45)	-75.00%	\$ 9.60	\$ 3.90	(5.70)	-59.38%
Nitroquick	0.4	\$ 0.12	\$ 0.19	\$ 0.07	58.33%	95	50	(45)	-47.37%	\$ 11.40	\$ 9.50	(1.90)	-16.67%

Appendix D
Medications with a Per-Dose Price less than \$1.00

Drug Name	Dosage	Price Per Dose				Quantity				Total Expenditure			
		Dec - 04	Mar - 06	Change	Percent Change	Dec - 04	Mar - 06	Change	Percent Change	Dec - 04	Mar - 06	Change	Percent Change
Levothroid	0.2	\$ 0.27	\$ 0.42	\$ 0.15	55.56%	30	15	(15)	-50.00%	\$ 8.10	\$ 6.30	(1.80)	-22.22%
Warfarin Sodium	7.5	\$ 0.61	\$ 0.89	\$ 0.28	45.90%	61	83	22	36.07%	\$ 37.21	\$ 73.87	36.66	98.52%
Prilosec/Prilosec OTC	20	\$ 0.54	\$ 0.77	\$ 0.23	42.59%	3,189	3,347	158	4.95%	\$ 1,722.06	\$ 2,577.19	855.13	49.66%
Hydroxyzine	50	\$ 0.14	\$ 0.19	\$ 0.05	35.71%	120	375	255	212.50%	\$ 16.80	\$ 71.25	54.45	324.11%
Sodium Chloride	0.90%	\$ 0.03	\$ 0.04	\$ 0.01	33.33%	2,400	1,200	(1,200)	-50.00%	\$ 72.00	\$ 48.00	(24.00)	-33.33%
Phenytoin	100	\$ 0.19	\$ 0.25	\$ 0.06	31.58%	2,328	2,175	(153)	-6.57%	\$ 442.32	\$ 543.75	101.43	22.93%
Premarin	0.625	\$ 0.94	\$ 1.23	\$ 0.29	30.85%	240	90	(150)	-62.50%	\$ 225.60	\$ 110.70	(114.90)	-50.93%
Carbamazepine	100	\$ 0.15	\$ 0.19	\$ 0.04	26.67%	165	310	145	87.88%	\$ 24.75	\$ 58.90	34.15	137.98%
Ibuprofen	600	\$ 0.15	\$ 0.18	\$ 0.03	20.00%	48	74	26	54.17%	\$ 7.20	\$ 13.32	6.12	85.00%
Triam/HCTZ	37.5/25	\$ 0.23	\$ 0.27	\$ 0.04	17.39%	60	60	0	0.00%	\$ 13.80	\$ 16.20	2.40	17.39%
Amitriptyline	25	\$ 0.22	\$ 0.25	\$ 0.03	13.64%	268	335	67	25.00%	\$ 58.96	\$ 83.75	24.79	42.05%
Klor-Con	20meq	\$ 0.34	\$ 0.38	\$ 0.04	11.76%	435	792	357	82.07%	\$ 147.90	\$ 300.96	153.06	103.49%
Lithium Carb	300	\$ 0.11	\$ 0.12	\$ 0.01	9.09%	435	1,650	1,215	279.31%	\$ 47.85	\$ 198.00	150.15	313.79%
Warfarin Sodium	5	\$ 0.41	\$ 0.44	\$ 0.03	7.32%	106	201	95	89.62%	\$ 43.46	\$ 88.44	44.98	103.50%
Warfarin Sodium	10	\$ 0.63	\$ 0.64	\$ 0.01	1.59%	88	106	18	20.45%	\$ 55.44	\$ 67.84	12.40	22.37%
Clonidine HCL	0.1	\$ 0.14	\$ 0.14	\$ -	0.00%	613	370	(243)	-39.64%	\$ 85.82	\$ 51.80	(34.02)	-39.64%
Cumulative Subtotal - Increased in Price		\$ 8.05	\$ 15.02	\$ 6.97	86.63%	32,252	36,313	4,061	12.59%	\$ 4,139.01	\$ 7,851.16	\$ 3,712.15	89.69%

Total Quantity Purchased	73,530	78,721	5,191	7.06%
Total Monthly Expenditure (Quantity ordered times per-dose price)	\$ 20,646.49	\$16,004.26	\$ (4,642.23)	-22.48%
Weighted Average Per-Dose Price (Total Monthly Expenditure divided by Total Quantity Purchased)	\$ 0.28	\$ 0.20	\$ (0.08)	-27.60%

Increase in Quantity	5,191
Percent increase in Quantity	7.06%
Decrease in Monthly Expenditure	\$ (4,642.23)
Percent Decrease in Monthly Expenditure	-22.48%
Decrease in weighted average per-dose price	\$ 0.08
Decrease in weighted average per-dose percent	27.60%

Appendix E
National Survey Results on 20 Selected Medications

Contractor/In House/340B	3rd party	3rd Party	3rd Party	3rd Party	3rd Party	3rd Party	3rd Party					
Dispensing Fee	Yes	Yes	No	No	Yes	Yes	No	Yes	No	Yes	Yes/per mo.	Yes
Blister Pack	Yes	Yes	Yes	Yes	Yes	Both	If available	Yes	Both	Yes	Yes	Yes
Facility	Salt Lake	Salt Lake	Utah	Franklin	Maricopa	Bernalillo	King	Jefferson	San Diego	Orange	Broward	Pinellas
State	UT	UT	UT	OH	AZ	NM	WA	KY	CA	FL	FL	FL
Amitriptyline 50mg tab	\$ 0.02	\$ 0.35	\$ 0.36	\$ 0.18	\$ 0.25	\$ 0.02	\$ 0.05	\$ 2.06	\$ 0.06	\$ 0.02	0.03	\$ 0.05
Bupropion 75mg tab	\$ 0.16	\$ 0.36	\$ 0.43	\$ 0.37	\$ 0.27	\$ 0.15	\$ 0.16	\$ 1.72	Don't use	\$ 0.21	0.19	\$ 0.17
Combivir 150/300mg tab	\$ 10.35	\$ 10.46	Don't use	\$ 10.86	\$ 9.97	\$ 9.95	\$ 8.67	\$ 10.32	\$ 10.03	\$ 10.03		\$ 9.92
Depakote 250mg tab	\$ 1.09	\$ 1.19		\$ 1.37	\$ 0.93	\$ 1.08	\$ 1.09	\$ 0.86	Don't use	\$ 1.13	0.99	\$ 1.16
Effexor 75mg tab	\$ 1.69	\$ 1.82	\$ 1.88	\$ 1.96	\$ 1.80	\$ 1.67	\$ 1.85	\$ 2.13	Don't use	\$ 1.63	1.68	\$ 1.82
Fluoxetine 20mg cap	\$ 0.32	\$ 0.19	\$ 0.60	\$ 0.28	\$ 0.14	\$ 0.03	\$ 0.03	Don't use	\$ 0.09	\$ 0.47	0.10	\$ 0.03
Fluoxetine 10 mg cap	\$ 0.41	\$ 0.58	Don't use	\$ 0.26	\$ 0.25	\$ 0.03	\$ 0.03	Don't use	\$ 0.09	\$ 0.04	0.10	\$ 0.04
Geodon 80mg cap	\$ 4.40	\$ 4.57	\$ 4.92	\$ 4.91	\$ 4.51	\$ 4.37	\$ 4.19	Don't use	\$ 4.65	\$ 4.47	4.39	\$ 4.71
Lexapro 20 mg tab	\$ 2.07	\$ 2.39	\$ 2.38	\$ 2.21	\$ 2.29	\$ 2.05	\$ 1.98	Don't use	\$ 2.09	\$ 2.10	1.93	\$ 2.08
Paroxetine 40mg tab	\$ 1.32	\$ 1.79	\$ 1.72	\$ 1.60	\$ 0.68	\$ 0.52	\$ 0.47	Don't use	\$ 1.94	\$ 2.93		\$ 0.59
Phenytoin 100mg tab	\$ 0.17	\$ 0.24	\$ 0.19	\$ 0.33	\$ 0.25	\$ 0.19	\$ 0.19	\$ 0.34	Don't use	\$ 0.18	0.16	\$ 0.19
Prilosec 20mg tab	\$ 0.50	\$ 0.70	\$ 0.72	\$ 0.98	\$ 0.62	\$ 0.61	\$ 3.46	\$ 3.64	Use generic	\$ 1.83	0.55	\$ 0.99
Risperdal 4mg tab	\$ 7.61	\$ 7.95	\$ 8.90	\$ 8.78	\$ 8.18	\$ 7.90	\$ 7.96	\$ 5.83	\$ 7.89	\$ 7.80	7.94	\$ 8.00
Risperdal 3mg tab	\$ 5.65	\$ 6.01	\$ 6.62	\$ 6.57	\$ 6.03	\$ 5.88	\$ 5.93	\$ 4.48	\$ 5.87	\$ 5.73	5.91	\$ 5.95
Seroquel 300mg tab	\$ 6.70	\$ 6.85	\$ 7.50	\$ 7.42	\$ 6.82	\$ 6.66	\$ 6.18	\$ 4.25	\$ 14.03	\$ 6.83	6.32	\$ 7.11
Truvada 200-300mg tab	\$ 22.74	\$ 22.97	Don't use	\$ 25.35	\$ 22.97		\$ 22.93	Don't use	\$ 22.57	\$ 23.13	22.73	\$ 22.87
Zofran 8mg tab	Not used	\$ 32.31	Don't use	\$ 34.48		\$ 31.03	\$ 30.32	Don't use	Don't use	Don't use		\$ 32.90
Zolof 100mg tab	\$ 2.37	\$ 2.65	\$ 2.65	\$ 2.71	\$ 2.60	\$ 2.36	\$ 2.26	\$ 2.21	\$ 2.35	\$ 2.40	2.09	\$ 2.40
Zyprexa 15mg tab	\$ 12.88	\$ 13.11	\$ 15.18	\$ 14.89	\$ 13.11	\$ 13.47	\$ 12.02	\$ 11.74	\$ 13.46	Don't use	12.66	\$ 14.53
Zyvox 600mg tab	Not used	\$ 53.26	Don't use	\$ 71.14		\$ 52.81	\$ 51.07	Don't use	Don't use	\$ 78.00		\$ 56.14

Contractor/In House/340B	3rd party	3rd party	3rd Party	3rd Party	3rd Party	In House	In House	In House	In House	340b	340b	340B
Dispensing Fee	Yes	Yes	No	Yes	Yes	No	No	Yes	No			
Blister Pack	Yes	Yes	Both	No	Yes	Some	No	Yes	No			
Facility	Salt Lake	Salt Lake	Contra Costa	Dupage	Northeastern	Harris	Orange	San Bernardino	Cuyahoga	Denver	Hennepin	Bexar
State	UT	UT	CA	IL	Cnty	TX	CA	CA	OH	CO	MN	TX
Amitriptyline 50mg tab	\$ 0.02	\$ 0.35	\$ 0.02	\$ 0.50	\$ 0.05	Don't use	\$ 0.02	\$ 0.02	\$ 0.03	\$ 0.02	\$ 0.01	\$ 0.01
Bupropion 75mg tab	\$ 0.16	\$ 0.36	\$ 0.23	\$ 0.47	\$ 0.18	Don't use	\$ 0.17	\$ 0.16	\$ 0.18	\$ 0.09	\$ 0.13	\$ 0.08
Combivir 150/300mg tab	\$ 10.35	\$ 10.46	\$ 10.31	Don't use	\$ 10.61	\$ 9.85	\$ 10.65	\$ 9.94	\$ 9.73	\$ 7.12	\$ 6.97	\$ 6.97
Depakote 250mg tab	\$ 1.09	\$ 1.19	\$ 1.21	\$ 0.53	\$ 1.19	\$ 1.09	\$ 1.18	\$ 1.06	\$ 1.18	\$ 0.34	\$ 0.33	\$ 0.33
Effexor 75mg tab	\$ 1.69	\$ 1.82	\$ 1.79	\$ 2.10	\$ 1.87	\$ 2.59	\$ 1.85	\$ 1.55	\$ 1.81	\$ 1.84	\$ 0.67	\$ 0.75
Fluoxetine 20mg cap	\$ 0.32	\$ 0.19	\$ 0.06	\$ 0.88	\$ 0.06	\$ 0.03	\$ 0.03	\$ 0.25	\$ 0.03	\$ 0.02	\$ 0.02	\$ 0.02
Fluoxetine 10 mg cap	\$ 0.41	\$ 0.58	\$ 0.06	\$ 0.95	\$ 0.06	Don't use	\$ 0.03	\$ 0.25	\$ 0.03	\$ 0.02	\$ 0.02	\$ 0.02
Geodon 80mg cap	\$ 4.40	\$ 4.57	\$ 4.64	\$ 5.08	\$ 4.79	\$ 4.39	\$ 4.50	\$ 4.40	\$ 5.51	\$ 2.50	\$ 2.65	\$ 2.65
Lexapro 20 mg tab	\$ 2.07	\$ 2.39	\$ 2.16	\$ 2.50	\$ 2.13	\$ 2.04	\$ 2.18	\$ 1.93	\$ 2.46	\$ 1.59	\$ 1.44	\$ 1.55
Paroxetine 40mg tab	\$ 1.32	\$ 1.79	\$ 0.60	\$ 1.83	\$ 0.65	\$ 1.63	\$ 2.12	\$ 0.49	\$ 0.55	\$ 0.39	\$ 0.39	\$ 0.39
Phenytoin 100mg tab	\$ 0.17	\$ 0.24	\$ 0.29	\$ 0.22	\$ 0.22	\$ 0.28	\$ 0.30	\$ 0.27	\$ 0.21	\$ 0.12	\$ 0.23	\$ 0.12
Prilosec 20mg tab	\$ 0.50	\$ 0.70	\$ 0.59	\$ 0.67	\$ 0.59	Don't use	\$ 0.57	\$ 2.49	\$ 0.64	\$ 1.96	\$ 3.27	\$ 1.91
Risperdal 4mg tab	\$ 7.61	\$ 7.95	\$ 7.88	\$ 9.18	\$ 8.12	\$ 7.94	\$ 8.14	\$ 7.58	\$ 8.50	\$ 4.51	\$ 4.71	\$ 4.42
Risperdal 3mg tab	\$ 5.65	\$ 6.01	\$ 5.87	\$ 6.82	\$ 6.05	\$ 5.91	\$ 6.06	\$ 5.64	\$ 5.86	\$ 3.40	\$ 3.57	\$ 3.32
Seroquel 300mg tab	\$ 6.70	\$ 6.85	\$ 6.48	\$ 7.75	\$ 7.22	\$ 6.16	\$ 6.70	\$ 6.32	\$ 6.67	\$ 5.26	\$ 2.95	\$ 5.22
Truvada 200-300mg tab	\$ 22.74	\$ 22.97	\$ 22.56	\$ 26.10	\$ 23.17	\$ 22.72	\$ 23.30	Don't use	\$ 25.23	\$ 17.56	\$ 16.66	\$ 17.18
Zofran 8mg tab	Not used	\$ 32.31	\$ 30.93	Don't use	\$ 31.82	Don't use	\$ 25.25	Don't use	\$ 30.63	\$ 12.96	\$ 11.76	\$ 12.67
Zolof 100mg tab	\$ 2.37	\$ 2.65	\$ 2.35	\$ 2.79	\$ 2.44	\$ 2.37	\$ 2.43	\$ 2.37	\$ 2.64	\$ 1.61	\$ 1.57	\$ 1.57
Zyprexa 15mg tab	\$ 12.88	\$ 13.11	\$ 13.45	Don't use	\$ 14.73	\$ 12.87	\$ 14.65	\$ 12.60	\$ 12.40	\$ 9.99	\$ 9.19	\$ 9.07
Zyvox 600mg tab	Not used	\$ 53.26	\$ 55.37	Don't use	\$ 56.84	Don't use	\$ 54.46	Don't use	\$ 57.68	\$ 38.12	\$ 35.95	\$ 37.29

Blue shaded column for Salt Lake County includes a dispensing fee

Some counties likely have included overhead or dispensing fees calculated in their price, i.e., Utah, Franklin, Maricopa and DuPage Counties
Comparability to Salt Lake County cannot be assured on counties which include overhead or dispensing fees on their prices.

Appendix F
Jail In-custody Pharmaceutical Expenditures

Year	Amount	% Change
1990	\$ 58,456	
1991	\$ 78,601	34.46%
1992	\$ 97,171	23.63%
1993	\$ 122,351	25.91%
1994	\$ 179,156	46.43%
1995	\$ 155,721	-13.08%
1996	\$ 146,374	-6.00%
1997	\$ 150,442	2.78%
1998	\$ 190,308	26.50%
1999	\$ 354,636	86.35%
2000	\$ 765,044	115.73%
2001	\$ 679,415	-11.19%
2002	\$ 706,892	4.04%
2003	\$ 785,601	11.13%
2004	\$ 1,071,824	36.43%
2005	\$ 957,335	-10.68%
TOTAL	\$ 6,499,327	

Source: AFIN DR05 Object 1420

Appendix G

Medication Costs - 2004 & 2005 Side-by-Side Comparison

2004			Drug Name	2005			Differences - 2004 to 2005			
Quantity	Price	Price Per Pill/Unit		Quantity	Price	Price Per Pill/Unit	Quantity	Price	Price Per Pill/Unit	% Change in Price Pill
581	\$5,532.05	\$ 9.52	ABILIFY 10MG TABLET Total	856	\$8,451.68	\$ 9.87	275	2,919.63	0.35	3.70%
294	\$2,865.91	\$ 9.75	ABILIFY 15MG TABLET Total	744	\$7,367.25	\$ 9.90	450	4,501.34	0.15	1.58%
780	\$2,513.06	\$ 3.22	ADVAIR 500/50MCG DISKUS Total	1,020	\$3,324.51	\$ 3.26	240	811.45	0.04	1.16%
3,000	\$7,024.98	\$ 2.34	ADVAIR-250/50MCG-DISKUS Total	4,380	\$10,598.53	\$ 2.42	1380	3,573.55	0.08	3.34%
12,308	\$13,351.61	\$ 1.08	ALBUTEROL 90MCG INHALER Total	12,750	\$10,531.30	\$ 0.83	442	(2,820.31)	(0.26)	-23.86%
2,825	\$9,276.08	\$ 3.28	AMOX/CLAV 875MG TABLET Total	3,520	\$9,120.08	\$ 2.59	695	(156.00)	(0.69)	-21.09%
3,551	\$9,371.65	\$ 2.64	AVANDIA 4MG TABLET Total	3,373	\$9,029.67	\$ 2.68	(178)	(341.98)	0.04	1.44%
2,330	\$11,361.53	\$ 4.88	AVANDIA 8MG TABLET Total	1,401	\$6,933.93	\$ 4.95	(929)	(4,427.60)	0.07	1.50%
9	\$2,471.96	\$ 274.66	AVONEX ADMIN PACK 30MCG SY Total	32	\$9,640.64	\$ 301.27	23	7,168.68	26.61	9.69%
4,768	\$2,980.22	\$ 0.63	BUPROPION 100MG TABLET Total	11,913	\$5,371.82	\$ 0.45	7145	2,391.60	(0.17)	-27.86%
35,011	\$16,404.23	\$ 0.47	BUPROPION 75MG TABLET Total	28,706	\$11,686.95	\$ 0.41	(6305)	(4,717.28)	(0.06)	-13.11%
14,804	\$12,974.66	\$ 0.88	CEPHALEXIN 500 MG CAPSULE Total	21,086	\$15,193.78	\$ 0.72	6282	2,219.12	(0.16)	-17.78%
1,211	\$4,018.57	\$ 3.32	CIPROFLOXACIN 500MG TABLET Total	1,753	\$5,012.74	\$ 2.86	542	994.17	(0.46)	-13.83%
15,958	\$12,334.00	\$ 0.77	CLINDAMYCIN 150MG CAPS Total	22,611	\$12,412.16	\$ 0.55	6653	78.16	(0.22)	-28.98%
1,305	\$5,141.99	\$ 3.94	COMBIVENT INHALER Total	1,080	\$5,010.51	\$ 4.64	(225)	(131.48)	0.70	17.74%
1,580	\$16,279.28	\$ 10.30	COMBIVIR 150MG/300MG TAB Total	2,346	\$24,946.61	\$ 10.63	766	8,667.33	0.33	3.21%
3,249	\$3,483.32	\$ 1.07	DEPAKOTE 250MG TABLET Total	3,958	\$4,632.48	\$ 1.17	709	1,149.16	0.10	9.17%
5,413	\$10,905.82	\$ 2.01	DEPAKOTE 500MG TAB Total	3,801	\$8,175.64	\$ 2.15	(1612)	(2,730.18)	0.14	6.76%
3,270	\$3,374.69	\$ 1.03	DICLOXACILLIN 500MG CAPSULE Total	4,722	\$4,112.19	\$ 0.87	1452	737.50	(0.16)	-15.62%
8,973	\$15,878.53	\$ 1.77	EFFEXOR 75MG TABLET Total	12,052	\$21,927.63	\$ 1.82	3079	6,049.10	0.05	2.82%
1,283	\$6,096.80	\$ 4.75	EPIVIR 150MG TAB (3TC) Total	795	\$3,915.00	\$ 4.92	(488)	(2,181.80)	0.17	3.63%
816	\$3,134.49	\$ 3.84	FLONASE 0.05% NASAL SPRAY Total	672	\$2,765.74	\$ 4.12	(144)	(368.75)	0.27	7.14%
17,945	\$9,379.27	\$ 0.52	FLUOXETINE 20MG CAPS Total	33,941	\$15,698.59	\$ 0.46	15996	6,319.32	(0.06)	-11.51%
583	\$2,451.93	\$ 4.21	GEODON 20MG CAPSULE Total	645	\$2,816.26	\$ 4.37	62	364.33	0.16	3.82%
1,260	\$5,299.39	\$ 4.21	GEODON 40MG CAPSULE Total	2,187	\$9,571.38	\$ 4.38	927	4,271.99	0.17	4.06%
735	\$3,366.24	\$ 4.58	GEODON 60MG CAPSULE Total	2,346	\$11,221.26	\$ 4.78	1611	7,855.02	0.20	4.44%
4,355	\$19,945.83	\$ 4.58	GEODON 80MG CAPSULE Total	11,990	\$56,067.87	\$ 4.68	7635	36,122.04	0.10	2.10%
830	\$4,993.86	\$ 6.02	HUMALOG 100UNIT/ML VIAL Total	1,290	\$8,563.37	\$ 6.64	460	3,569.51	0.62	10.33%
73,241	\$14,508.15	\$ 0.20	IBUPROFEN 800MG TABLET Total	109,383	\$19,442.73	\$ 0.18	36142	4,934.58	(0.02)	-10.27%
5,430	\$18,250.82	\$ 3.36	KALETRA 133.3/33.3 GELCAP Total	3,976	\$13,438.18	\$ 3.38	(1454)	(4,812.64)	0.02	0.56%
600	\$3,144.55	\$ 5.24	LANTUS (INSULIN GLARGINE) Total	700	\$4,345.83	\$ 6.21	100	1,201.28	0.97	18.46%
474	\$4,509.72	\$ 9.51	LEVAQUIN 500MG TABLET Total	1,478	\$15,080.68	\$ 10.20	1004	10,570.96	0.69	7.24%
4,437	\$9,446.16	\$ 2.13	LEXAPRO 20MG TABLET Total	11,450	\$26,064.61	\$ 2.28	7013	16,618.45	0.15	6.93%
814	\$2,624.14	\$ 3.22	LIPITOR 20MG TABLET Total	834	\$2,846.69	\$ 3.41	20	222.55	0.19	5.88%
8,092	\$5,124.34	\$ 0.63	LISINOPRIL 10MG TABLET Total	9,345	\$4,403.26	\$ 0.47	1253	(721.08)	(0.16)	-25.59%
5,802	\$3,933.31	\$ 0.68	LISINOPRIL 20MG TABLET Total	8,339	\$4,487.25	\$ 0.54	2537	553.94	(0.14)	-20.62%
3,546	\$3,515.16	\$ 0.99	LISINOPRIL 40MG TABLET Total	4,344	\$3,423.89	\$ 0.79	798	(91.27)	(0.20)	-20.49%

Appendix G

Quantity	Price	Price Per Pill/Unit	Drug Name	Quantity	Price	Price Per Pill/Unit	Quantity	Price	Price Per Pill/Unit	% Change in Price Pill	
82	\$5,021.73	\$ 61.24	LOVENOX 100MG/ML SYRINGE Total	92	\$5,755.99	\$ 62.57	10	734.26	1.32	2.16%	
3,643	\$3,415.02	\$ 0.94	METFORMIN 1000MG TABLET Total	4,525	\$2,788.29	\$ 0.62	882	(626.73)	(0.32)	-34.27%	
7,074	\$3,218.86	\$ 0.46	METFORMIN 500MG TABLET Total	9,617	\$3,230.98	\$ 0.34	2543	12.12	(0.12)	-26.17%	
2,646	\$5,157.94	\$ 1.95	NORVASC 10MG TABLET Total	2,173	\$4,485.08	\$ 2.06	(473)	(672.86)	0.11	5.88%	
1,482	\$2,465.36	\$ 1.66	PAROXETINE 20MG TABLET Total	2,436	\$3,703.97	\$ 1.52	954	1,238.61	(0.14)	-8.60%	
3,086	\$5,371.73	\$ 1.74	PAROXETINE 30MG TABLET Total	2,669	\$4,232.03	\$ 1.59	(417)	(1,139.70)	(0.16)	-8.91%	
9,242	\$16,912.31	\$ 1.83	PAROXETINE 40MG TABLET Total	10,046	\$16,695.50	\$ 1.66	804	(216.81)	(0.17)	-9.18%	
25,535	\$7,217.49	\$ 0.28	PENICILLIN VK 500MG TABLET Total	30,923	\$7,148.28	\$ 0.23	5388	(69.21)	(0.05)	-18.22%	
23,364	\$4,444.26	\$ 0.19	PHENYTOIN 100MG CAPSULE Total	28,614	\$5,866.81	\$ 0.21	5250	1,422.55	0.01	7.79%	
983	\$3,846.14	\$ 3.91	PLAVIX 75MG TABLET Total	1,384	\$5,529.48	\$ 4.00	401	1,683.34	0.08	2.11%	
985	\$4,124.32	\$ 4.19	PREVACID 30MG CAPSULE Total	693	\$2,957.87	\$ 4.27	(292)	(1,166.45)	0.08	1.94%	
13,483	\$7,281.79	\$ 0.54	PRIOSEC OTC 20MG TABLET Total	42,620	\$25,556.44	\$ 0.60	29137	18,274.65	0.06	11.03%	
3,002	\$9,507.87	\$ 3.17	RISPERDAL 1MG TABLET Total	3,851	\$13,181.18	\$ 3.42	849	3,673.31	0.26	8.07%	
5,642	\$28,079.58	\$ 4.98	RISPERDAL 2MG TABLET Total	9,261	\$49,372.53	\$ 5.33	3619	21,292.95	0.35	7.12%	
4,592	\$27,824.92	\$ 6.06	RISPERDAL 3MG TABLET Total	5,247	\$32,400.91	\$ 6.18	655	4,575.99	0.12	1.91%	
5,550	\$45,006.48	\$ 8.11	RISPERDAL 4MG TABLET Total	9,420	\$78,200.85	\$ 8.30	3870	33,194.37	0.19	2.37%	
108	\$4,747.22	\$ 43.96	ROCEPHIN 1GM VIAL Total	125	\$5,494.49	\$ 43.96	17	747.27	0.00	0.00%	
6,361	\$17,790.49	\$ 2.80	SEROQUEL 100MG TABLET Total	1,429	\$4,161.60	\$ 2.91	(4932)	(13,628.89)	0.12	4.13%	
12,908	\$68,118.35	\$ 5.28	SEROQUEL 200MG TABLET Total	7,938	\$42,958.76	\$ 5.41	(4970)	(25,159.59)	0.13	2.55%	
8,023	\$52,324.56	\$ 6.52	SEROQUEL 300MG TABLET Total	5,623	\$39,812.03	\$ 7.08	(2400)	(12,512.53)	0.56	8.56%	
2,396	\$4,470.82	\$ 1.87	TRILEPTAL 300MG TABLET Total	5,080	\$10,078.53	\$ 1.98	2684	5,607.71	0.12	6.32%	
1,310	\$4,493.28	\$ 3.43	TRILEPTAL 600MG TABLET Total	1,262	\$4,546.65	\$ 3.60	(48)	53.37	0.17	5.04%	
1,250	\$21,455.00	\$ 17.16	TUBERSOL PPD 50 TEST Total	2,150	\$39,303.61	\$ 18.28	900	17,848.61	1.12	6.51%	
61,746	\$33,115.44	\$ 0.54	VALPROIC ACID 250MG CAPSULE Total	102,207	\$41,783.88	\$ 0.41	40461	8,668.44	(0.13)	-23.77%	
1,950	\$4,229.80	\$ 2.17	VIRACEPT 250MG TABLET Total	5,670	\$12,289.98	\$ 2.17	3720	8,060.18	(0.00)	-0.07%	
1,453	\$8,817.75	\$ 6.07	VIRAMUNE 200MG TABLET Total	1,444	\$9,146.15	\$ 6.33	(9)	328.40	0.27	4.37%	
1,253	\$17,441.29	\$ 13.92	VIREAD 300MG TABLET Total	285	\$4,041.24	\$ 14.18	(968)	(13,400.05)	0.26	1.87%	
1,557	\$11,029.60	\$ 7.08	ZITHROMAX 250MG TABLET Total	2,319	\$17,502.12	\$ 7.55	762	6,472.52	0.46	6.54%	
326	\$5,542.49	\$ 17.00	ZITHROMAX 600MG TABLET Total	272	\$4,944.16	\$ 18.18	(54)	(598.33)	1.18	6.91%	
669	\$2,758.63	\$ 4.12	ZOCOR 20MG TABLET Total	2,314	\$9,943.10	\$ 4.30	1645	7,184.47	0.17	4.21%	
14,767	\$36,493.68	\$ 2.47	ZOLOFT 100MG TABLET Total	8,133	\$21,085.26	\$ 2.59	(6634)	(15,408.42)	0.12	4.91%	
2,472	\$20,508.99	\$ 8.30	ZYPREXA 10MG TABLET Total	478	\$3,982.46	\$ 8.33	(1994)	(16,526.53)	0.03	0.42%	
1,033	\$12,875.08	\$ 12.46	ZYPREXA 15MG TABLET Total	591	\$7,858.13	\$ 13.30	(442)	(5,016.95)	0.83	6.68%	
1,873	\$31,324.15	\$ 16.72	ZYPREXA 20MG TABLET Total	324	\$5,763.19	\$ 17.79	(1549)	(25,560.96)	1.06	6.36%	
44	\$2,437.53	\$ 55.40	ZYVOX 600MG TABLET Total	138	\$7,480.21	\$ 54.20	94	5,042.68	(1.19)	-2.16%	
TOTAL	\$826,138.25			TOTAL	\$950,914.43						
							Number of decreases	22	27	22	22
							Number of increases	49	44	49	49
							No Change	1	1	1	1
							Count	72	72	72	72

Appendix G

None in 2005, only in 2004:				None in 2004, only in 2005:			
Quantity	Price	Price Per Pill/Unit	Drug Name	Drug Name	Quantity	Price	Price Per Pill/Unit
634	\$8,523.62	\$ 13.44	ABILIFY 20MG TABLET Total	ABILIFY 30MG TABLET Total	566	\$7,910.56	\$ 13.98
475	\$2,609.71	\$ 5.49	ACTOS 45MG TABLET Total	CARB/LEVO 50/200 ER TAB Total	3,758	\$3,914.08	\$ 1.04
2,100	\$3,882.44	\$ 1.85	ADVAIR**100/50MCG*DISKUS Total	CITALOPRAM 40MG TABLET Total	4,753	\$3,956.97	\$ 0.83
925	\$2,456.84	\$ 2.66	BECONASE AQ 0.042% NAS SPR Total	COMTAN 200MG TABLET Total	1,692	\$3,216.31	\$ 1.90
2,135	\$5,717.53	\$ 2.68	CELEBREX 200MG CAPSULE Total	FLOVENT*HFA**110MCG*INHALER Total	396	\$2,814.67	\$ 7.11
6,033	\$14,694.74	\$ 2.44	CELEXA 40MG TABLET Total	FLUCONAZOLE 100MG TABLET Total	833	\$3,120.19	\$ 3.75
3,150	\$2,804.11	\$ 0.89	CLOBETASOL 0.05% CREAM Total	GABAPENTIN 300MG CAPSULE Total	21,899	\$13,180.48	\$ 0.60
3,262	\$6,211.68	\$ 1.90	DEPAKOTE *ER500MG TAB Total	GABAPENTIN 600MG TABLET Total	11,621	\$16,809.36	\$ 1.45
3,216	\$2,573.05	\$ 0.80	DOXYCYCLINE 100MG CAPSULE Total	GABAPENTIN 800MG TABLET Total	4,270	\$6,896.54	\$ 1.62
2,906	\$9,273.55	\$ 3.19	EFFEXOR-XR 150MG CAP Total	GLEEVEC 400MG TABLET Total	121	\$9,726.54	\$ 80.38
3,151	\$9,232.39	\$ 2.93	EFFEXOR-XR 75MG CAP Total	KEPPRA 500MG TABLET Total	1,835	\$3,990.04	\$ 2.17
315	\$2,993.76	\$ 9.50	EPIVIR 300MG TABLET Total	LAMICTAL 100MG TABLET Total	2,135	\$7,175.31	\$ 3.36
520	\$3,107.61	\$ 5.98	FLOVENT 110MCG INHALER Total	LAMICTAL 25MG TABLET Total	893	\$2,799.63	\$ 3.14
1,446	\$4,527.65	\$ 3.13	LAMICTAL 100MG TABLET Total	LOTREL 5MG/20MG CAPSULE Total	1,269	\$2,812.76	\$ 2.22
1,200	\$10,825.65	\$ 9.02	LEXIVA 700MG TABLET Total	LOVENOX 120MG/0.8MY SYR Total	38	\$2,919.62	\$ 76.83
779	\$2,511.42	\$ 3.22	LIPITOR 40MG TABLET Total	MIRAPEX 1.5MG TABLET Total	1,760	\$3,687.27	\$ 2.10
3,682	\$6,692.76	\$ 1.82	MIRTAZAPINE 30MG TABLET Total	NAPROXEN 500MG TABLET Total	8,058	\$4,474.05	\$ 0.56
17,549	\$22,321.85	\$ 1.27	NEURONTIN 300MG CAPSULE Total	NORVASC 5MG TABLET Total	2,115	\$3,192.20	\$ 1.51
5,749	\$8,773.48	\$ 1.53	NEURONTIN 400MG CAPSULE Total	PANCREASE MT-10 CAP Total	4,155	\$4,111.42	\$ 0.99
8,601	\$20,785.54	\$ 2.42	NEURONTIN 600MG TABLET Total	PROCRIT 40,000UNIT/ML VIAL Total	6	\$3,077.94	\$ 512.99
1,755	\$5,088.70	\$ 2.90	NEURONTIN 800MG TABLET Total	REBIF 44MCG/0.5ML SYRINGE Total	42	\$5,044.14	\$ 120.10
9,522	\$25,696.48	\$ 2.70	OMEPRAZOLE 20MG CAPSULE DR Total	REYATAZ 150MG CAPSULE Total	320	\$3,910.07	\$ 12.22
1,881	\$3,066.03	\$ 1.63	PAROXETINE 10MG TABLET Total	SUSTIVA 200MG CAPSULE Total	585	\$2,785.67	\$ 4.76
768	\$2,628.09	\$ 3.42	PROGRAF 1MG CAPSULE Total	SUSTIVA 600MG TABLET Total	454	\$6,334.73	\$ 13.95
1,194	\$3,945.32	\$ 3.30	PROTONIX 40MG TABLET EC Total	TOBI 300MG/5ML NEB SOLUTION Total	560	\$5,735.86	\$ 10.24
272	\$5,812.64	\$ 21.37	PROZAC WEEKLY 90MG CAP Total	TRAMADOL 50MG TABLET Total	9,324	\$2,765.56	\$ 0.30
2,852	\$4,181.13	\$ 1.47	SEROQUEL 25MG TABLET Total	TRUVADA 200-300MG TABLET Total	755	\$17,806.72	\$ 23.59
250	\$7,430.83	\$ 29.72	TETANUS TOXOID ADSORBED Total	ZOCOR 40MG TABLET Total	1,002	\$4,300.44	\$ 4.29
993	\$3,886.52	\$ 3.91	TOPAMAX 100MG TABLET Total	ZOFRAN 8 MG TABLET Total	138	\$4,458.38	\$ 32.31
562	\$3,588.74	\$ 6.39	ZIAGEN 300MG TAB Total	ZYPREXA ZYDIS 15MG TABLET Total	195	\$2,935.72	\$ 15.05
562	\$3,334.33	\$ 5.93	ZYPREXA 5MG TABLET Total	08ENBREL 25MG KIT Total	56	\$8,637.21	\$ 154.24
TOTAL	\$219,178.19			TOTAL		\$174,500.44	

Source: Pharmaceutical Contractor

Appendix H

Top 100 Medications Sorted by Price-per-Dose 2004 and 2005

2004				2005			
Quantity	Price	Drug Name	Price Per Dose	Quantity	Price	Drug Name	Price Per Dose
9	\$2,471.96	AVONEX ADMIN PACK 30MCG SY Total	\$ 274.66	6	\$3,077.94	PROCRIPT 40,000UNIT/ML VIAL Total	\$ 512.99
82	\$5,021.73	LOVENOX 100MG/ML SYRINGE Total	\$ 61.24	32	\$9,640.64	AVONEX ADMIN PACK 30MCG SY Total	\$ 301.27
44	\$2,437.53	ZYVOX 600MG TABLET Total	\$ 55.40	56	\$8,637.21	08ENBREL 25MG KIT Total	\$ 154.24
108	\$4,747.22	ROCEPHIN 1GM VIAL Total	\$ 43.96	42	\$5,044.14	REBIF 44MCG/0.5ML SYRINGE Total	\$ 120.10
250	\$7,430.83	TETANUS TOXOID ADSORBED Total	\$ 29.72	121	\$9,726.54	GLEEVEC 400MG TABLET Total	\$ 80.38
272	\$5,812.64	PROZAC WEEKLY 90MG CAP Total	\$ 21.37	38	\$2,919.62	LOVENOX 120MG/0.8MY SYR Total	\$ 76.83
1,250	\$21,455.00	TUBERSOL PPD 50 TEST Total	\$ 17.16	92	\$5,755.99	LOVENOX 100MG/ML SYRINGE Total	\$ 62.57
326	\$5,542.49	ZITHROMAX 600MG TABLET Total	\$ 17.00	138	\$7,480.21	ZYVOX 600MG TABLET Total	\$ 54.20
1,873	\$31,324.15	ZYPREXA 20MG TABLET Total	\$ 16.72	125	\$5,494.49	ROCEPHIN 1GM VIAL Total	\$ 43.96
1,253	\$17,441.29	VIREAD 300MG TABLET Total	\$ 13.92	138	\$4,458.38	ZOFRAN 8 MG TABLET Total	\$ 32.31
634	\$8,523.62	ABILIFY 20MG TABLET Total	\$ 13.44	755	\$17,806.72	TRUVADA 200-300MG TABLET Total	\$ 23.59
1,033	\$12,875.08	ZYPREXA 15MG TABLET Total	\$ 12.46	2,150	\$39,303.61	TUBERSOL PPD 50 TEST Total	\$ 18.28
1,580	\$16,279.28	COMBIVIR 150MG/300MG TAB Total	\$ 10.30	272	\$4,944.16	ZITHROMAX 600MG TABLET Total	\$ 18.18
294	\$2,865.91	ABILIFY 15MG TABLET Total	\$ 9.75	324	\$5,763.19	ZYPREXA 20MG TABLET Total	\$ 17.79
581	\$5,532.05	ABILIFY 10MG TABLET Total	\$ 9.52	195	\$2,935.72	ZYPREXA ZYDIS 15MG TABLET Total	\$ 15.05
474	\$4,509.72	LEVAQUIN 500MG TABLET Total	\$ 9.51	285	\$4,041.24	VIREAD 300MG TABLET Total	\$ 14.18
315	\$2,993.76	EPIVIR 300MG TABLET Total	\$ 9.50	566	\$7,910.56	ABILIFY 30MG TABLET Total	\$ 13.98
1,200	\$10,825.65	LEXIVA 700MG TABLET Total	\$ 9.02	454	\$6,334.73	SUSTIVA 600MG TABLET Total	\$ 13.95
2,472	\$20,508.99	ZYPREXA 10MG TABLET Total	\$ 8.30	591	\$7,858.13	ZYPREXA 15MG TABLET Total	\$ 13.30
5,550	\$45,006.48	RISPERDAL 4MG TABLET Total	\$ 8.11	320	\$3,910.07	REYATAZ 150MG CAPSULE Total	\$ 12.22
1,557	\$11,029.60	ZITHROMAX 250MG TABLET Total	\$ 7.08	2,346	\$24,946.61	COMBIVIR 150MG/300MG TAB Total	\$ 10.63
8,023	\$52,324.56	SEROQUEL 300MG TABLET Total	\$ 6.52	560	\$5,735.86	TOBI 300MG/5ML NEB SOLUTION Total	\$ 10.24
562	\$3,588.74	ZIAGEN 300MG TAB Total	\$ 6.39	1,478	\$15,080.68	LEVAQUIN 500MG TABLET Total	\$ 10.20
1,453	\$8,817.75	VIRAMUNE 200MG TABLET Total	\$ 6.07	744	\$7,367.25	ABILIFY 15MG TABLET Total	\$ 9.90
4,592	\$27,824.92	RISPERDAL 3MG TABLET Total	\$ 6.06	856	\$8,451.68	ABILIFY 10MG TABLET Total	\$ 9.87
830	\$4,993.86	HUMALOG 100UNIT/ML VIAL Total	\$ 6.02	478	\$3,982.46	ZYPREXA 10MG TABLET Total	\$ 8.33
520	\$3,107.61	FLOVENT 110MCG INHALER Total	\$ 5.98	9,420	\$78,200.85	RISPERDAL 4MG TABLET Total	\$ 8.30
562	\$3,334.33	ZYPREXA 5MG TABLET Total	\$ 5.93	2,319	\$17,502.12	ZITHROMAX 250MG TABLET Total	\$ 7.55
475	\$2,609.71	ACTOS 45MG TABLET Total	\$ 5.49	396	\$2,814.67	FLOVENT*HFA**110MCG*INHALER To	\$ 7.11
12,908	\$68,118.35	SEROQUEL 200MG TABLET Total	\$ 5.28	5,623	\$39,812.03	SEROQUEL 300MG TABLET Total	\$ 7.08
600	\$3,144.55	LANTUS (INSULIN GLARGINE) Total	\$ 5.24	1,290	\$8,563.37	HUMALOG 100UNIT/ML VIAL Total	\$ 6.64
5,642	\$28,079.58	RISPERDAL 2MG TABLET Total	\$ 4.98	1,444	\$9,146.15	VIRAMUNE 200MG TABLET Total	\$ 6.33
2,330	\$11,361.53	AVANDIA 8MG TABLET Total	\$ 4.88	700	\$4,345.83	LANTUS (INSULIN GLARGINE) Total	\$ 6.21
1,283	\$6,096.80	EPIVIR 150MG TAB (3TC) Total	\$ 4.75	5,247	\$32,400.91	RISPERDAL 3MG TABLET Total	\$ 6.18
4,355	\$19,945.83	GEODON 80MG CAPSULE Total	\$ 4.58	7,938	\$42,958.76	SEROQUEL 200MG TABLET Total	\$ 5.41
735	\$3,366.24	GEODON 60MG CAPSULE Total	\$ 4.58	9,261	\$49,372.53	RISPERDAL 2MG TABLET Total	\$ 5.33
1,260	\$5,299.39	GEODON 40MG CAPSULE Total	\$ 4.21	1,401	\$6,933.93	AVANDIA 8MG TABLET Total	\$ 4.95
583	\$2,451.93	GEODON 20MG CAPSULE Total	\$ 4.21	795	\$3,915.00	EPIVIR 150MG TAB (3TC) Total	\$ 4.92
985	\$4,124.32	PREVACID 30MG CAPSULE Total	\$ 4.19	2,346	\$11,221.26	GEODON 60MG CAPSULE Total	\$ 4.78
669	\$2,758.63	ZOCOR 20MG TABLET Total	\$ 4.12	585	\$2,785.67	SUSTIVA 200MG CAPSULE Total	\$ 4.76
1,305	\$5,141.99	COMBIVENT INHALER Total	\$ 3.94	11,990	\$56,067.87	GEODON 80MG CAPSULE Total	\$ 4.68
993	\$3,886.52	TOPAMAX 100MG TABLET Total	\$ 3.91	1,080	\$5,010.51	COMBIVENT INHALER Total	\$ 4.64
983	\$3,846.14	PLAVIX 75MG TABLET Total	\$ 3.91	2,187	\$9,571.38	GEODON 40MG CAPSULE Total	\$ 4.38
816	\$3,134.49	FLONASE 0.05% NASAL SPRAY Total	\$ 3.84	645	\$2,816.26	GEODON 20MG CAPSULE Total	\$ 4.37
1,310	\$4,493.28	TRILEPTAL 600MG TABLET Total	\$ 3.43	2,314	\$9,943.10	ZOCOR 20MG TABLET Total	\$ 4.30
768	\$2,628.09	PROGRAF 1MG CAPSULE Total	\$ 3.42	1,002	\$4,300.44	ZOCOR 40MG TABLET Total	\$ 4.29
5,430	\$18,250.82	KALETRA 133.3/33.3 GELCAP Total	\$ 3.36	693	\$2,957.87	PREVACID 30MG CAPSULE Total	\$ 4.27
1,211	\$4,018.57	CIPROFLOXACIN 500MG TABLET Total	\$ 3.32	672	\$2,765.74	FLONASE 0.05% NASAL SPRAY Total	\$ 4.12
1,194	\$3,945.32	PROTONIX 40MG TABLET EC Total	\$ 3.30	1,384	\$5,529.48	PLAVIX 75MG TABLET Total	\$ 4.00
2,825	\$9,276.08	AMOX/CLAV 875MG TABLET Total	\$ 3.28	833	\$3,120.19	FLUCONAZOLE 100MG TABLET Total	\$ 3.75
779	\$2,511.42	LIPITOR 40MG TABLET Total	\$ 3.22	1,262	\$4,546.65	TRILEPTAL 600MG TABLET Total	\$ 3.60
814	\$2,624.14	LIPITOR 20MG TABLET Total	\$ 3.22	3,851	\$13,181.18	RISPERDAL 1MG TABLET Total	\$ 3.42
780	\$2,513.06	ADVAIR 500/50MCG DISKUS Total	\$ 3.22	834	\$2,846.69	LIPITOR 20MG TABLET Total	\$ 3.41

Appendix H

2004				2005			
Quantity	Price	Drug Name	Price Per Dose	Quantity	Price	Drug Name	Price Per Dose
2,906	\$9,273.55	EFFEXOR-XR 150MG CAP Total	\$ 3.19	3,976	\$13,438.18	KALETRA 133.3/33.3 GELCAP Total	\$ 3.38
3,002	\$9,507.87	RISPERDAL 1MG TABLET Total	\$ 3.17	2,135	\$7,175.31	LAMICTAL 100MG TABLET Total	\$ 3.36
1,446	\$4,527.65	LAMICTAL 100MG TABLET Total	\$ 3.13	1,020	\$3,324.51	ADVAIR 500/50MCG DISKUS Total	\$ 3.26
3,151	\$9,232.39	EFFEXOR-XR 75MG CAP Total	\$ 2.93	893	\$2,799.63	LAMICTAL 25MG TABLET Total	\$ 3.14
1,755	\$5,088.70	NEURONTIN 800MG TABLET Total	\$ 2.90	1,429	\$4,161.60	SEROQUEL 100MG TABLET Total	\$ 2.91
6,361	\$17,790.49	SEROQUEL 100MG TABLET Total	\$ 2.80	1,753	\$5,012.74	CIPROFLOXACIN 500MG TABLET Total	\$ 2.86
9,522	\$25,696.48	OMEPRAZOLE 20MG CAPSULE DR Total	\$ 2.70	3,373	\$9,029.67	AVANDIA 4MG TABLET Total	\$ 2.68
2,135	\$5,717.53	CELEBREX 200MG CAPSULE Total	\$ 2.68	8,133	\$21,085.26	ZOLOFT 100MG TABLET Total	\$ 2.59
925	\$2,456.84	BECONASE AQ 0.042% NAS SPR Total	\$ 2.66	3,520	\$9,120.08	AMOX/CLAV 875MG TABLET Total	\$ 2.59
3,551	\$9,371.65	AVANDIA 4MG TABLET Total	\$ 2.64	4,380	\$10,598.53	ADVAIR-250/50MCG-DISKUS Total	\$ 2.42
14,767	\$36,493.68	ZOLOFT 100MG TABLET Total	\$ 2.47	11,450	\$26,064.61	LEXAPRO 20MG TABLET Total	\$ 2.28
6,033	\$14,694.74	CELEXA 40MG TABLET Total	\$ 2.44	1,269	\$2,812.76	LOTREL 5MG/20MG CAPSULE Total	\$ 2.22
8,601	\$20,785.54	NEURONTIN 600MG TABLET Total	\$ 2.42	1,835	\$3,990.04	KEPPRA 500MG TABLET Total	\$ 2.17
3,000	\$7,024.98	ADVAIR-250/50MCG-DISKUS Total	\$ 2.34	5,670	\$12,289.98	VIRACEPT 250MG TABLET Total	\$ 2.17
1,950	\$4,229.80	VIRACEPT 250MG TABLET Total	\$ 2.17	3,801	\$8,175.64	DEPAKOTE 500MG TAB Total	\$ 2.15
4,437	\$9,446.16	LEXAPRO 20MG TABLET Total	\$ 2.13	1,760	\$3,687.27	MIRAPEX 1.5MG TABLET Total	\$ 2.10
5,413	\$10,905.82	DEPAKOTE 500MG TAB Total	\$ 2.01	2,173	\$4,485.08	NORVASC 10MG TABLET Total	\$ 2.06
2,646	\$5,157.94	NORVASC 10MG TABLET Total	\$ 1.95	5,080	\$10,078.53	TRILEPTAL 300MG TABLET Total	\$ 1.98
3,262	\$6,211.68	DEPAKOTE *ER500MG TAB Total	\$ 1.90	1,692	\$3,216.31	COMTAN 200MG TABLET Total	\$ 1.90
2,396	\$4,470.82	TRILEPTAL 300MG TABLET Total	\$ 1.87	12,052	\$21,927.63	EFFEXOR 75MG TABLET Total	\$ 1.82
2,100	\$3,882.44	ADVAIR**100/50MCG*DISKUS Total	\$ 1.85	10,046	\$16,695.50	PAROXETINE 40MG TABLET Total	\$ 1.66
9,242	\$16,912.31	PAROXETINE 40MG TABLET Total	\$ 1.83	4,270	\$6,896.54	GABAPENTIN 800MG TABLET Total	\$ 1.62
3,682	\$6,692.76	MIRTAZAPINE 30MG TABLET Total	\$ 1.82	2,669	\$4,232.03	PAROXETINE 30MG TABLET Total	\$ 1.59
8,973	\$15,878.53	EFFEXOR 75MG TABLET Total	\$ 1.77	2,436	\$3,703.97	PAROXETINE 20MG TABLET Total	\$ 1.52
3,086	\$5,371.73	PAROXETINE 30MG TABLET Total	\$ 1.74	2,115	\$3,192.20	NORVASC 5MG TABLET Total	\$ 1.51
1,482	\$2,465.36	PAROXETINE 20MG TABLET Total	\$ 1.66	11,621	\$16,809.36	GABAPENTIN 600MG TABLET Total	\$ 1.45
1,881	\$3,066.03	PAROXETINE 10MG TABLET Total	\$ 1.63	3,958	\$4,632.48	DEPAKOTE 250MG TABLET Total	\$ 1.17
5,749	\$8,773.48	NEURONTIN 400MG CAPSULE Total	\$ 1.53	3,758	\$3,914.08	CARB/LEVO 50/200 ER TAB Total	\$ 1.04
2,852	\$4,181.13	SEROQUEL 25MG TABLET Total	\$ 1.47	4,155	\$4,111.42	PANCREAZE MT-10 CAP Total	\$ 0.99
17,549	\$22,321.85	NEURONTIN 300MG CAPSULE Total	\$ 1.27	4,722	\$4,112.19	DICLOXACILLIN 500MG CAPSULE Total	\$ 0.87
12,308	\$13,351.61	ALBUTEROL 90MCG INHALER Total	\$ 1.08	4,753	\$3,956.97	CITALOPRAM 40MG TABLET Total	\$ 0.83
3,249	\$3,483.32	DEPAKOTE 250MG TABLET Total	\$ 1.07	12,750	\$10,531.30	ALBUTEROL 90MCG INHALER Total	\$ 0.83
3,270	\$3,374.69	DICLOXACILLIN 500MG CAPSULE Total	\$ 1.03	4,344	\$3,423.89	LISINAPRIL 40MG TABLET Total	\$ 0.79
3,546	\$3,515.16	LISINAPRIL 40MG TABLET Total	\$ 0.99	21,086	\$15,193.78	CEPHALEXIN 500 MG CAPSULE Total	\$ 0.72
3,643	\$3,415.02	METFORMIN 1000MG TABLET Total	\$ 0.94	4,525	\$2,788.29	METFORMIN 1000MG TABLET Total	\$ 0.62
3,150	\$2,804.11	CLOBETASOL 0.05% CREAM Total	\$ 0.89	21,899	\$13,180.48	GABAPENTIN 300MG CAPSULE Total	\$ 0.60
14,804	\$12,974.66	CEPHALEXIN 500 MG CAPSULE Total	\$ 0.88	42,620	\$25,556.44	PRILOSEC OTC 20MG TABLET Total	\$ 0.60
3,216	\$2,573.05	DOXYCYCLINE 100MG CAPSULE Total	\$ 0.80	8,058	\$4,474.05	NAPROXEN 500MG TABLET Total	\$ 0.56
15,958	\$12,334.00	CLINDAMYCIN 150MG CAPS Total	\$ 0.77	22,611	\$12,412.16	CLINDAMYCIN 150MG CAPS Total	\$ 0.55
5,802	\$3,933.31	LISINAPRIL 20MG TABLET Total	\$ 0.68	8,339	\$4,487.25	LISINAPRIL 20MG TABLET Total	\$ 0.54
8,092	\$5,124.34	LISINAPRIL 10MG TABLET Total	\$ 0.63	9,345	\$4,403.26	LISINAPRIL 10MG TABLET Total	\$ 0.47
4,768	\$2,980.22	BUPROPION 100MG TABLET Total	\$ 0.63	33,941	\$15,698.59	FLUOXETINE 20MG CAPS Total	\$ 0.46
13,483	\$7,281.79	PRILOSEC OTC 20MG TABLET Total	\$ 0.54	11,913	\$5,371.82	BUPROPION 100MG TABLET Total	\$ 0.45
61,746	\$33,115.44	VALPROIC ACID 250MG CAPSULE Total	\$ 0.54	102,207	\$41,783.88	VALPROIC ACID 250MG CAPSULE Total	\$ 0.41
17,945	\$9,379.27	FLUOXETINE 20MG CAPS Total	\$ 0.52	28,706	\$11,686.95	BUPROPION 75MG TABLET Total	\$ 0.41
35,011	\$16,404.23	BUPROPION 75MG TABLET Total	\$ 0.47	9,617	\$3,230.98	METFORMIN 500MG TABLET Total	\$ 0.34
7,074	\$3,218.86	METFORMIN 500MG TABLET Total	\$ 0.46	9,324	\$2,765.56	TRAMADOL 50MG TABLET Total	\$ 0.30
25,535	\$7,217.49	PENICILLIN VK 500MG TABLET Total	\$ 0.28	30,923	\$7,148.28	PENICILLIN VK 500MG TABLET Total	\$ 0.23
73,241	\$14,508.15	IBUPROFEN 800MG TABLET Total	\$ 0.20	28,614	\$5,866.81	PHENYTOIN 100MG CAPSULE Total	\$ 0.21
23,364	\$4,444.26	PHENYTOIN 100MG CAPSULE Total	\$ 0.19	109,383	\$19,442.73	IBUPROFEN 800MG TABLET Total	\$ 0.18

Appendix I

Top 100 Medications by Total Spent 2004 and 2005

2004				2005			
Quantity	Price Per Unit	Drug Name	Total Spent	Quantity	Price Per Unit	Drug Name	Total Spent
12,908	\$ 5.28	SEROQUEL 200MG TABLET Total	\$68,118.35	9,420	\$ 8.30	RISPERDAL 4MG TABLET Total	\$78,200.85
8,023	\$ 6.52	SEROQUEL 300MG TABLET Total	\$52,324.56	11,990	\$ 4.68	GEODON 80MG CAPSULE Total	\$56,067.87
5,550	\$ 8.11	RISPERDAL 4MG TABLET Total	\$45,006.48	9,261	\$ 5.33	RISPERDAL 2MG TABLET Total	\$49,372.53
14,767	\$ 2.47	ZOLOFT 100MG TABLET Total	\$36,493.68	7,938	\$ 5.41	SEROQUEL 200MG TABLET Total	\$42,958.76
61,746	\$ 0.54	VALPROIC ACID 250MG CAPSULE Total	\$33,115.44	102,207	\$ 0.41	VALPROIC ACID 250MG CAPSULE Total	\$41,783.88
1,873	\$ 16.72	ZYPREXA 20MG TABLET Total	\$31,324.15	5,623	\$ 7.08	SEROQUEL 300MG TABLET Total	\$39,812.03
5,642	\$ 4.98	RISPERDAL 2MG TABLET Total	\$28,079.58	2,150	\$ 18.28	TUBERSOL PPD 50 TEST Total	\$39,303.61
4,592	\$ 6.06	RISPERDAL 3MG TABLET Total	\$27,824.92	5,247	\$ 6.18	RISPERDAL 3MG TABLET Total	\$32,400.91
9,522	\$ 2.70	OMEPRAZOLE 20MG CAPSULE DR Total	\$25,696.48	11,450	\$ 2.28	LEXAPRO 20MG TABLET Total	\$26,064.61
17,549	\$ 1.27	NEURONTIN 300MG CAPSULE Total	\$22,321.85	42,620	\$ 0.60	PRILOSEC OTC 20MG TABLET Total	\$25,556.44
1,250	\$ 17.16	TUBERSOL PPD 50 TEST Total	\$21,455.00	2,346	\$ 10.63	COMBIVIR 150MG/300MG TAB Total	\$24,946.61
8,601	\$ 2.42	NEURONTIN 600MG TABLET Total	\$20,785.54	12,052	\$ 1.82	EFFEXOR 75MG TABLET Total	\$21,927.63
2,472	\$ 8.30	ZYPREXA 10MG TABLET Total	\$20,508.99	8,133	\$ 2.59	ZOLOFT 100MG TABLET Total	\$21,085.26
4,355	\$ 4.58	GEODON 80MG CAPSULE Total	\$19,945.83	109,383	\$ 0.18	IBUPROFEN 800MG TABLET Total	\$19,442.73
5,430	\$ 3.36	KALETRA 133.3/33.3 GELCAP Total	\$18,250.82	755	\$ 23.59	TRUVADA 200-300MG TABLET Total	\$17,806.72
6,361	\$ 2.80	SEROQUEL 100MG TABLET Total	\$17,790.49	2,319	\$ 7.55	ZITHROMAX 250MG TABLET Total	\$17,502.12
1,253	\$ 13.92	VIREAD 300MG TABLET Total	\$17,441.29	11,621	\$ 1.45	GABAPENTIN 600MG TABLET Total	\$16,809.36
9,242	\$ 1.83	PAROXETINE 40MG TABLET Total	\$16,912.31	10,046	\$ 1.66	PAROXETINE 40MG TABLET Total	\$16,695.50
35,011	\$ 0.47	BUPROPION 75MG TABLET Total	\$16,404.23	33,941	\$ 0.46	FLUOXETINE 20MG CAPS Total	\$15,698.59
1,580	\$ 10.30	COMBIVIR 150MG/300MG TAB Total	\$16,279.28	21,086	\$ 0.72	CEPHALEXIN 500 MG CAPSULE Total	\$15,193.78
8,973	\$ 1.77	EFFEXOR 75MG TABLET Total	\$15,878.53	1,478	\$ 10.20	LEVAQUIN 500MG TABLET Total	\$15,080.68
6,033	\$ 2.44	CELEXA 40MG TABLET Total	\$14,694.74	3,976	\$ 3.38	KALETRA 133.3/33.3 GELCAP Total	\$13,438.18
73,241	\$ 0.20	IBUPROFEN 800MG TABLET Total	\$14,508.15	3,851	\$ 3.42	RISPERDAL 1MG TABLET Total	\$13,181.18
12,308	\$ 1.08	ALBUTEROL 90MCG INHALER Total	\$13,351.61	21,899	\$ 0.60	GABAPENTIN 300MG CAPSULE Total	\$13,180.48
14,804	\$ 0.88	CEPHALEXIN 500 MG CAPSULE Total	\$12,974.66	22,611	\$ 0.55	CLINDAMYCIN 150MG CAPS Total	\$12,412.16
1,033	\$ 12.46	ZYPREXA 15MG TABLET Total	\$12,875.08	5,670	\$ 2.17	VIRACEPT 250MG TABLET Total	\$12,289.98
15,958	\$ 0.77	CLINDAMYCIN 150MG CAPS Total	\$12,334.00	28,706	\$ 0.41	BUPROPION 75MG TABLET Total	\$11,686.95
2,330	\$ 4.88	AVANDIA 8MG TABLET Total	\$11,361.53	2,346	\$ 4.78	GEODON 60MG CAPSULE Total	\$11,221.26
1,557	\$ 7.08	ZITHROMAX 250MG TABLET Total	\$11,029.60	4,380	\$ 2.42	ADVAIR-250/50MCG-DISKUS Total	\$10,598.53
5,413	\$ 2.01	DEPAKOTE 500MG TAB Total	\$10,905.82	12,750	\$ 0.83	ALBUTEROL 90MCG INHALER Total	\$10,531.30
1,200	\$ 9.02	LEXIVA 700MG TABLET Total	\$10,825.65	5,080	\$ 1.98	TRILEPTAL 300MG TABLET Total	\$10,078.53
3,002	\$ 3.17	RISPERDAL 1MG TABLET Total	\$9,507.87	2,314	\$ 4.30	ZOCOR 20MG TABLET Total	\$9,943.10
4,437	\$ 2.13	LEXAPRO 20MG TABLET Total	\$9,446.16	121	\$ 80.38	GLEEVEC 400MG TABLET Total	\$9,726.54
17,945	\$ 0.52	FLUOXETINE 20MG CAPS Total	\$9,379.27	32	\$301.27	AVONEX ADMIN PACK 30MCG SY Total	\$9,640.64
3,551	\$ 2.64	AVANDIA 4MG TABLET Total	\$9,371.65	2,187	\$ 4.38	GEODON 40MG CAPSULE Total	\$9,571.38
2,825	\$ 3.28	AMOX/CLAV 875MG TABLET Total	\$9,276.08	1,444	\$ 6.33	VIRAMUNE 200MG TABLET Total	\$9,146.15
2,906	\$ 3.19	EFFEXOR-XR 150MG CAP Total	\$9,273.55	3,520	\$ 2.59	AMOX/CLAV 875MG TABLET Total	\$9,120.08
3,151	\$ 2.93	EFFEXOR-XR 75MG CAP Total	\$9,232.39	3,373	\$ 2.68	AVANDIA 4MG TABLET Total	\$9,029.67
1,453	\$ 6.07	VIRAMUNE 200MG TABLET Total	\$8,817.75	56	\$154.24	08ENBREL 25MG KIT Total	\$8,637.21
5,749	\$ 1.53	NEURONTIN 400MG CAPSULE Total	\$8,773.48	1,290	\$ 6.64	HUMALOG 100UNIT/ML VIAL Total	\$8,563.37
634	\$ 13.44	ABILIFY 20MG TABLET Total	\$8,523.62	856	\$ 9.87	ABILIFY 10MG TABLET Total	\$8,451.68
250	\$ 29.72	TETANUS TOXOID ADSORBED Total	\$7,430.83	3,801	\$ 2.15	DEPAKOTE 500MG TAB Total	\$8,175.64
13,483	\$ 0.54	PRILOSEC OTC 20MG TABLET Total	\$7,281.79	566	\$ 13.98	ABILIFY 30MG TABLET Total	\$7,910.56
25,535	\$ 0.28	PENICILLIN VK 500MG TABLET Total	\$7,217.49	591	\$ 13.30	ZYPREXA 15MG TABLET Total	\$7,858.13
3,000	\$ 2.34	ADVAIR-250/50MCG-DISKUS Total	\$7,024.98	138	\$ 54.20	ZYVOX 600MG TABLET Total	\$7,480.21
3,682	\$ 1.82	MIRTAZAPINE 30MG TABLET Total	\$6,692.76	744	\$ 9.90	ABILIFY 15MG TABLET Total	\$7,367.25
3,262	\$ 1.90	DEPAKOTE *ER500MG TAB Total	\$6,211.68	2,135	\$ 3.36	LAMICTAL 100MG TABLET Total	\$7,175.31
1,283	\$ 4.75	EPIVIR 150MG TAB (3TC) Total	\$6,096.80	30,923	\$ 0.23	PENICILLIN VK 500MG TABLET Total	\$7,148.28
272	\$ 21.37	PROZAC WEEKLY 90MG CAP Total	\$5,812.64	1,401	\$ 4.95	AVANDIA 8MG TABLET Total	\$6,933.93
2,135	\$ 2.68	CELEBREX 200MG CAPSULE Total	\$5,717.53	4,270	\$ 1.62	GABAPENTIN 800MG TABLET Total	\$6,896.54
326	\$ 17.00	ZITHROMAX 600MG TABLET Total	\$5,542.49	454	\$ 13.95	SUSTIVA 600MG TABLET Total	\$6,334.73
581	\$ 9.52	ABILIFY 10MG TABLET Total	\$5,532.05	28,614	\$ 0.21	PHENYTOIN 100MG CAPSULE Total	\$5,866.81
3,086	\$ 1.74	PAROXETINE 30MG TABLET Total	\$5,371.73	324	\$ 17.79	ZYPREXA 20MG TABLET Total	\$5,763.19
1,260	\$ 4.21	GEODON 40MG CAPSULE Total	\$5,299.39	92	\$ 62.57	LOVENOX 100MG/ML SYRINGE Total	\$5,755.99
2,646	\$ 1.95	NORVASC 10MG TABLET Total	\$5,157.94	560	\$ 10.24	TOBI 300MG/5ML NEB SOLUTION Total	\$5,735.86
1,305	\$ 3.94	COMBIVENT INHALER Total	\$5,141.99	1,384	\$ 4.00	PLAVIX 75MG TABLET Total	\$5,529.48
8,092	\$ 0.63	LISINAPRIL 10MG TABLET Total	\$5,124.34	125	\$ 43.96	ROCEPHIN 1GM VIAL Total	\$5,494.49
1,755	\$ 2.90	NEURONTIN 800MG TABLET Total	\$5,088.70	11,913	\$ 0.45	BUPROPION 100MG TABLET Total	\$5,371.82
82	\$ 61.24	LOVENOX 100MG/ML SYRINGE Total	\$5,021.73	42	\$120.10	REBIF 44MCG/0.5ML SYRINGE Total	\$5,044.14
830	\$ 6.02	HUMALOG 100UNIT/ML VIAL Total	\$4,993.86	1,753	\$ 2.86	CIPROFLOXACIN 500MG TABLET Total	\$5,012.74
108	\$ 43.96	ROCEPHIN 1GM VIAL Total	\$4,747.22	1,080	\$ 4.64	COMBIVENT INHALER Total	\$5,010.51
1,446	\$ 3.13	LAMICTAL 100MG TABLET Total	\$4,527.65	272	\$ 18.18	ZITHROMAX 600MG TABLET Total	\$4,944.16
474	\$ 9.51	LEVAQUIN 500MG TABLET Total	\$4,509.72	3,958	\$ 1.17	DEPAKOTE 250MG TABLET Total	\$4,632.48
1,310	\$ 3.43	TRILEPTAL 600MG TABLET Total	\$4,493.28	1,262	\$ 3.60	TRILEPTAL 600MG TABLET Total	\$4,546.65
2,396	\$ 1.87	TRILEPTAL 300MG TABLET Total	\$4,470.82	8,339	\$ 0.54	LISINAPRIL 20MG TABLET Total	\$4,487.25
23,364	\$ 0.19	PHENYTOIN 100MG CAPSULE Total	\$4,444.26	2,173	\$ 2.06	NORVASC 10MG TABLET Total	\$4,485.08
1,950	\$ 2.17	VIRACEPT 250MG TABLET Total	\$4,229.80	8,058	\$ 0.56	NAPROXEN 500MG TABLET Total	\$4,474.05

Appendix I

2004				2005			
Quantity	Price Per Unit	Drug Name	Total Spent	Quantity	Price Per Unit	Drug Name	Total Spent
2,852	\$ 1.47	SEROQUEL 25MG TABLET Total	\$4,181.13	138	\$ 32.31	ZOFRAN 8 MG TABLET Total	\$4,458.38
985	\$ 4.19	PREVACID 30MG CAPSULE Total	\$4,124.32	9,345	\$ 0.47	LISINOPRIL 10MG TABLET Total	\$4,403.26
1,211	\$ 3.32	CIPROFLOXACIN 500MG TABLET Total	\$4,018.57	700	\$ 6.21	LANTUS (INSULIN GLARGINE) Total	\$4,345.83
1,194	\$ 3.30	PROTONIX 40MG TABLET EC Total	\$3,945.32	1,002	\$ 4.29	ZOCOR 40MG TABLET Total	\$4,300.44
5,802	\$ 0.68	LISINOPRIL 20MG TABLET Total	\$3,933.31	2,669	\$ 1.59	PAROXETINE 30MG TABLET Total	\$4,232.03
993	\$ 3.91	TOPAMAX 100MG TABLET Total	\$3,886.52	1,429	\$ 2.91	SEROQUEL 100MG TABLET Total	\$4,161.60
2,100	\$ 1.85	ADVAIR**100/50MCG*DISKUS Total	\$3,882.44	4,722	\$ 0.87	DICLOXACILLIN 500MG CAPSULE Total	\$4,112.19
983	\$ 3.91	PLAVIX 75MG TABLET Total	\$3,846.14	4,155	\$ 0.99	PANCREASE MT-10 CAP Total	\$4,111.42
562	\$ 6.39	ZIAGEN 300MG TAB Total	\$3,588.74	285	\$ 14.18	VIREAD 300MG TABLET Total	\$4,041.24
3,546	\$ 0.99	LISINOPRIL 40MG TABLET Total	\$3,515.16	1,835	\$ 2.17	KEPPRA 500MG TABLET Total	\$3,990.04
3,249	\$ 1.07	DEPAKOTE 250MG TABLET Total	\$3,483.32	478	\$ 8.33	ZYPREXA 10MG TABLET Total	\$3,982.46
3,643	\$ 0.94	METFORMIN 1000MG TABLET Total	\$3,415.02	4,753	\$ 0.83	CITALOPRAM 40MG TABLET Total	\$3,956.97
3,270	\$ 1.03	DICLOXACILLIN 500MG CAPSULE Total	\$3,374.69	795	\$ 4.92	EPIVIR 150MG TAB (3TC) Total	\$3,915.00
735	\$ 4.58	GEODON 60MG CAPSULE Total	\$3,366.24	3,758	\$ 1.04	CARB/LEVO 50/200 ER TAB Total	\$3,914.08
562	\$ 5.93	ZYPREXA 5MG TABLET Total	\$3,334.33	320	\$ 12.22	REYATAZ 150MG CAPSULE Total	\$3,910.07
7,074	\$ 0.46	METFORMIN 500MG TABLET Total	\$3,218.86	2,436	\$ 1.52	PAROXETINE 20MG TABLET Total	\$3,703.97
600	\$ 5.24	LANTUS (INSULIN GLARGINE) Total	\$3,144.55	1,760	\$ 2.10	MIRAPEX 1.5MG TABLET Total	\$3,687.27
816	\$ 3.84	FLONASE 0.05% NASAL SPRAY Total	\$3,134.49	4,344	\$ 0.79	LISINOPRIL 40MG TABLET Total	\$3,423.89
520	\$ 5.98	FLOVENT 110MCG INHALER Total	\$3,107.61	1,020	\$ 3.26	ADVAIR 500/50MCG DISKUS Total	\$3,324.51
1,881	\$ 1.63	PAROXETINE 10MG TABLET Total	\$3,066.03	9,617	\$ 0.34	METFORMIN 500MG TABLET Total	\$3,230.98
315	\$ 9.50	EPIVIR 300MG TABLET Total	\$2,993.76	1,692	\$ 1.90	COMTAN 200MG TABLET Total	\$3,216.31
4,768	\$ 0.63	BUPROPION 100MG TABLET Total	\$2,980.22	2,115	\$ 1.51	NORVASC 5MG TABLET Total	\$3,192.20
294	\$ 9.75	ABILIFY 15MG TABLET Total	\$2,865.91	833	\$ 3.75	FLUCONAZOLE 100MG TABLET Total	\$3,120.19
3,150	\$ 0.89	CLOBETASOL 0.05% CREAM Total	\$2,804.11	6	\$512.99	PROCRIPT 40,000UNIT/ML VIAL Total	\$3,077.94
669	\$ 4.12	ZOCOR 20MG TABLET Total	\$2,758.63	693	\$ 4.27	PREVACID 30MG CAPSULE Total	\$2,957.87
768	\$ 3.42	PROGRAF 1MG CAPSULE Total	\$2,628.09	195	\$ 15.05	ZYPREXA ZYDIS 15MG TABLET Total	\$2,935.72
814	\$ 3.22	LIPITOR 20MG TABLET Total	\$2,624.14	38	\$ 76.83	LOVENOX 120MG/0.8MY SYR Total	\$2,919.62
475	\$ 5.49	ACTOS 45MG TABLET Total	\$2,609.71	834	\$ 3.41	LIPITOR 20MG TABLET Total	\$2,846.69
3,216	\$ 0.80	DOXYCYCLINE 100MG CAPSULE Total	\$2,573.05	645	\$ 4.37	GEODON 20MG CAPSULE Total	\$2,816.26
780	\$ 3.22	ADVAIR 500/50MCG DISKUS Total	\$2,513.06	396	\$ 7.11	FLOVENT*HFA**110MCG*INHALER Total	\$2,814.67
779	\$ 3.22	LIPITOR 40MG TABLET Total	\$2,511.42	1,269	\$ 2.22	LOTREL 5MG/20MG CAPSULE Total	\$2,812.76
9	\$274.66	AVONEX ADMIN PACK 30MCG SY Total	\$2,471.96	893	\$ 3.14	LAMICTAL 25MG TABLET Total	\$2,799.63
1,482	\$ 1.66	PAROXETINE 20MG TABLET Total	\$2,465.36	4,525	\$ 0.62	METFORMIN 1000MG TABLET Total	\$2,788.29
925	\$ 2.66	BECONASE AQ 0.042% NAS SPR Total	\$2,456.84	585	\$ 4.76	SUSTIVA 200MG CAPSULE Total	\$2,785.67
583	\$ 4.21	GEODON 20MG CAPSULE Total	\$2,451.93	672	\$ 4.12	FLONASE 0.05% NASAL SPRAY Total	\$2,765.74
44	\$ 55.40	ZYVOX 600MG TABLET Total	\$2,437.53	9,324	\$ 0.30	TRAMADOL 50MG TABLET Total	\$2,765.56
TOTAL			\$1,045,316.44				\$1,125,414.87

Source: Pharmaceutical Contractor

Note: Timing Differences may influence the above data so that it does not match invoice amounts for the year.

Appendix J

Top 100 Medications by Quantity Dispensed 2004 and 2005

2004				2005			
Price Per Unit	Total Spent	Drug Name	Quantity	Price Per Unit	Total Spent	Drug Name	Quantity
\$ 0.20	\$14,508.15	IBUPROFEN 800MG TABLET Total	73,241	\$ 0.18	\$19,442.73	IBUPROFEN 800MG TABLET Total	109,383
\$ 0.54	\$33,115.44	VALPROIC ACID 250MG CAPSULE Total	61,746	\$ 0.41	\$41,783.88	VALPROIC ACID 250MG CAPSULE Total	102,207
\$ 0.47	\$16,404.23	BUPROPION 75MG TABLET Total	35,011	\$ 0.60	\$25,556.44	PRILOSEC OTC 20MG TABLET Total	42,620
\$ 0.28	\$7,217.49	PENICILLIN VK 500MG TABLET Total	25,535	\$ 0.46	\$15,698.59	FLUOXETINE 20MG CAPS Total	33,941
\$ 0.19	\$4,444.26	PHENYTOIN 100MG CAPSULE Total	23,364	\$ 0.23	\$7,148.28	PENICILLIN VK 500MG TABLET Total	30,923
\$ 0.52	\$9,379.27	FLUOXETINE 20MG CAPS Total	17,945	\$ 0.41	\$11,686.95	BUPROPION 75MG TABLET Total	28,706
\$ 1.27	\$22,321.85	NEURONTIN 300MG CAPSULE Total	17,549	\$ 0.21	\$5,866.81	PHENYTOIN 100MG CAPSULE Total	28,614
\$ 0.77	\$12,334.00	CLINDAMYCIN 150MG CAPS Total	15,958	\$ 0.55	\$12,412.16	CLINDAMYCIN 150MG CAPS Total	22,611
\$ 0.88	\$12,974.66	CEPHALEXIN 500 MG CAPSULE Total	14,804	\$ 0.60	\$13,180.48	GABAPENTIN 300MG CAPSULE Total	21,899
\$ 2.47	\$36,493.68	ZOLOFT 100MG TABLET Total	14,767	\$ 0.72	\$15,193.78	CEPHALEXIN 500 MG CAPSULE Total	21,086
\$ 0.54	\$7,281.79	PRILOSEC OTC 20MG TABLET Total	13,483	\$ 0.83	\$10,531.30	ALBUTEROL 90MCG INHALER Total	12,575
\$ 5.28	\$68,118.35	SEROQUEL 200MG TABLET Total	12,908	\$ 1.82	\$21,927.63	EFFEXOR 75MG TABLET Total	12,052
\$ 1.08	\$13,351.61	ALBUTEROL 90MCG INHALER Total	12,308	\$ 4.68	\$56,067.87	GEODON 80MG CAPSULE Total	11,990
\$ 2.70	\$25,696.48	OMEPRAZOLE 20MG CAPSULE DR Total	9,522	\$ 0.45	\$5,371.82	BUPROPION 100MG TABLET Total	11,913
\$ 1.83	\$16,912.31	PAROXETINE 40MG TABLET Total	9,242	\$ 1.45	\$16,809.36	GABAPENTIN 600MG TABLET Total	11,621
\$ 1.77	\$15,878.53	EFFEXOR 75MG TABLET Total	8,973	\$ 2.28	\$26,064.61	LEXAPRO 20MG TABLET Total	11,450
\$ 2.42	\$20,785.54	NEURONTIN 600MG TABLET Total	8,601	\$ 1.66	\$16,695.50	PAROXETINE 40MG TABLET Total	10,046
\$ 0.63	\$5,124.34	LISINOPRIL 10MG TABLET Total	8,092	\$ 0.34	\$3,230.98	METFORMIN 500MG TABLET Total	9,617
\$ 6.52	\$52,324.56	SEROQUEL 300MG TABLET Total	8,023	\$ 8.30	\$78,200.85	RISPERDAL 4MG TABLET Total	9,420
\$ 0.46	\$3,218.86	METFORMIN 500MG TABLET Total	7,074	\$ 0.47	\$4,403.26	LISINOPRIL 10MG TABLET Total	9,345
\$ 2.80	\$17,790.49	SEROQUEL 100MG TABLET Total	6,361	\$ 0.30	\$2,765.56	TRAMADOL 50MG TABLET Total	9,324
\$ 2.44	\$14,694.74	CELEXA 40MG TABLET Total	6,033	\$ 5.33	\$49,372.53	RISPERDAL 2MG TABLET Total	9,261
\$ 0.68	\$3,933.31	LISINOPRIL 20MG TABLET Total	5,802	\$ 0.54	\$4,487.25	LISINOPRIL 20MG TABLET Total	8,339
\$ 1.53	\$8,773.48	NEURONTIN 400MG CAPSULE Total	5,749	\$ 2.59	\$21,085.26	ZOLOFT 100MG TABLET Total	8,133
\$ 4.98	\$28,079.58	RISPERDAL 2MG TABLET Total	5,642	\$ 0.56	\$4,474.05	NAPROXEN 500MG TABLET Total	8,058
\$ 8.11	\$45,006.48	RISPERDAL 4MG TABLET Total	5,550	\$ 5.41	\$42,958.76	SEROQUEL 200MG TABLET Total	7,938
\$ 3.36	\$18,250.82	KALETRA 133.3/33.3 GELCAP Total	5,430	\$ 2.17	\$12,289.98	VIRACEPT 250MG TABLET Total	5,670
\$ 2.01	\$10,905.82	DEPAKOTE 500MG TAB Total	5,413	\$ 7.08	\$39,812.03	SEROQUEL 300MG TABLET Total	5,623
\$ 0.63	\$2,980.22	BUPROPION 100MG TABLET Total	4,768	\$ 6.18	\$32,400.91	RISPERDAL 3MG TABLET Total	5,247
\$ 6.06	\$27,824.92	RISPERDAL 3MG TABLET Total	4,592	\$ 1.98	\$10,078.53	TRILEPTAL 300MG TABLET Total	5,080
\$ 2.13	\$9,446.16	LEXAPRO 20MG TABLET Total	4,437	\$ 0.83	\$3,956.97	CITALOPRAM 40MG TABLET Total	4,753
\$ 4.58	\$19,945.83	GEODON 80MG CAPSULE Total	4,355	\$ 0.87	\$4,112.19	DICLOXACILLIN 500MG CAPSULE Total	4,722
\$ 1.82	\$6,692.76	MIRTAZAPINE 30MG TABLET Total	3,682	\$ 0.62	\$2,788.29	METFORMIN 1000MG TABLET Total	4,525
\$ 0.94	\$3,415.02	METFORMIN 1000MG TABLET Total	3,643	\$ 2.42	\$10,598.53	ADVAIR-250/50MCG-DISKUS Total	4,380
\$ 2.64	\$9,371.65	AVANDIA 4MG TABLET Total	3,551	\$ 0.79	\$3,423.89	LISINOPRIL 40MG TABLET Total	4,344
\$ 0.99	\$3,515.16	LISINOPRIL 40MG TABLET Total	3,546	\$ 1.62	\$6,896.54	GABAPENTIN 800MG TABLET Total	4,270
\$ 1.03	\$3,374.69	DICLOXACILLIN 500MG CAPSULE Total	3,270	\$ 0.99	\$4,111.42	PANCREASE MT-10 CAP Total	4,155
\$ 1.90	\$6,211.68	DEPAKOTE *ER500MG TAB Total	3,262	\$ 3.38	\$13,438.18	KALETRA 133.3/33.3 GELCAP Total	3,976
\$ 1.07	\$3,483.32	DEPAKOTE 250MG TABLET Total	3,249	\$ 1.17	\$4,632.48	DEPAKOTE 250MG TABLET Total	3,958
\$ 0.80	\$2,573.05	DOXYCYCLINE 100MG CAPSULE Total	3,216	\$ 3.42	\$13,181.18	RISPERDAL 1MG TABLET Total	3,851
\$ 2.93	\$9,232.39	EFFEXOR-XR 75MG CAP Total	3,151	\$ 2.15	\$8,175.64	DEPAKOTE 500MG TAB Total	3,801
\$ 0.89	\$2,804.11	CLOBETASOL 0.05% CREAM Total	3,150	\$ 1.04	\$3,914.08	CARB/LEVO 50/200 ER TAB Total	3,758
\$ 1.74	\$5,371.73	PAROXETINE 30MG TABLET Total	3,086	\$ 2.59	\$9,120.08	AMOX/CLAV 875MG TABLET Total	3,520
\$ 3.17	\$9,507.87	RISPERDAL 1MG TABLET Total	3,002	\$ 2.68	\$9,029.67	AVANDIA 4MG TABLET Total	3,373
\$ 2.34	\$7,024.98	ADVAIR-250/50MCG-DISKUS Total	3,000	\$ 1.59	\$4,232.03	PAROXETINE 30MG TABLET Total	2,669
\$ 3.19	\$9,273.55	EFFEXOR-XR 150MG CAP Total	2,906	\$ 1.52	\$3,703.97	PAROXETINE 20MG TABLET Total	2,436
\$ 1.47	\$4,181.13	SEROQUEL 25MG TABLET Total	2,852	\$ 10.63	\$24,946.61	COMBIVIR 150MG/300MG TAB Total	2,346
\$ 3.28	\$9,276.08	AMOX/CLAV 875MG TABLET Total	2,825	\$ 4.78	\$11,221.26	GEODON 60MG CAPSULE Total	2,346
\$ 1.95	\$5,157.94	NORVASC 10MG TABLET Total	2,646	\$ 7.55	\$17,502.12	ZITHROMAX 250MG TABLET Total	2,319
\$ 8.30	\$20,508.99	ZYPREXA 10MG TABLET Total	2,472	\$ 4.30	\$9,943.10	ZOCOR 20MG TABLET Total	2,314
\$ 1.87	\$4,470.82	TRILEPTAL 300MG TABLET Total	2,396	\$ 4.38	\$9,571.38	GEODON 40MG CAPSULE Total	2,187
\$ 4.88	\$11,361.53	AVANDIA 8MG TABLET Total	2,330	\$ 2.06	\$4,485.08	NORVASC 10MG TABLET Total	2,173
\$ 2.68	\$5,717.53	CELEBREX 200MG CAPSULE Total	2,135	\$ 18.28	\$39,303.61	TUBERSOL PPD 50 TEST Total	2,150
\$ 1.85	\$3,882.44	ADVAIR**100/50MCG*DISKUS Total	2,100	\$ 3.36	\$7,175.31	LAMICTAL 100MG TABLET Total	2,135
\$ 2.17	\$4,229.80	VIRACEPT 250MG TABLET Total	1,950	\$ 1.51	\$3,192.20	NORVASC 5MG TABLET Total	2,115
\$ 1.63	\$3,066.03	PAROXETINE 10MG TABLET Total	1,881	\$ 2.17	\$3,990.04	KEPPRA 500MG TABLET Total	1,835
\$ 16.72	\$31,324.15	ZYPREXA 20MG TABLET Total	1,873	\$ 2.10	\$3,687.27	MIRAPEX 1.5MG TABLET Total	1,760
\$ 2.90	\$5,088.70	NEURONTIN 800MG TABLET Total	1,755	\$ 2.86	\$5,012.74	CIPROFLOXACIN 500MG TABLET Total	1,753
\$ 10.30	\$16,279.28	COMBIVIR 150MG/300MG TAB Total	1,580	\$ 1.90	\$3,216.31	COMTAN 200MG TABLET Total	1,692
\$ 7.08	\$11,029.60	ZITHROMAX 250MG TABLET Total	1,557	\$ 10.20	\$15,080.68	LEVAQUIN 500MG TABLET Total	1,478
\$ 1.66	\$2,465.36	PAROXETINE 20MG TABLET Total	1,482	\$ 6.33	\$9,146.15	VIRAMUNE 200MG TABLET Total	1,444
\$ 6.07	\$8,817.75	VIRAMUNE 200MG TABLET Total	1,453	\$ 2.91	\$4,161.60	SEROQUEL 100MG TABLET Total	1,429
\$ 3.13	\$4,527.65	LAMICTAL 100MG TABLET Total	1,446	\$ 4.95	\$6,933.93	AVANDIA 8MG TABLET Total	1,401
\$ 3.43	\$4,493.28	TRILEPTAL 600MG TABLET Total	1,310	\$ 4.00	\$5,529.48	PLAVIX 75MG TABLET Total	1,384
\$ 3.94	\$5,141.99	COMBIVENT INHALER Total	1,305	\$ 6.64	\$8,563.37	HUMALOG 100UNIT/ML VIAL Total	1,290

Appendix J

2004				2005			
Price Per Unit	Total Spent	Drug Name	Quantity	Price Per Unit	Total Spent	Drug Name	Quantity
\$ 4.75	\$6,096.80	EPIVIR 150MG TAB (3TC) Total	1,283	\$ 2.22	\$2,812.76	LOTREL 5MG/20MG CAPSULE Total	1,269
\$ 4.21	\$5,299.39	GEODON 40MG CAPSULE Total	1,260	\$ 3.60	\$4,546.65	TRILEPTAL 600MG TABLET Total	1,262
\$ 13.92	\$17,441.29	VIREAD 300MG TABLET Total	1,253	\$ 4.64	\$5,010.51	COMBIVENT INHALER Total	1,080
\$ 17.16	\$21,455.00	TUBERSOL PPD 50 TEST Total	1,250	\$ 3.26	\$3,324.51	ADVAIR 500/50MCG DISKUS Total	1,020
\$ 3.32	\$4,018.57	CIPROFLOXACIN 500MG TABLET Total	1,211	\$ 4.29	\$4,300.44	ZOCOR 40MG TABLET Total	1,002
\$ 9.02	\$10,825.65	LEXIVA 700MG TABLET Total	1,200	\$ 3.14	\$2,995.63	LAMICTAL 25MG TABLET Total	893
\$ 3.30	\$3,945.32	PROTONIX 40MG TABLET EC Total	1,194	\$ 9.87	\$8,451.68	ABILIFY 10MG TABLET Total	856
\$ 12.46	\$12,875.08	ZYPREXA 15MG TABLET Total	1,033	\$ 3.41	\$2,846.69	LIPITOR 20MG TABLET Total	834
\$ 3.91	\$3,886.52	TOPAMAX 100MG TABLET Total	993	\$ 3.75	\$3,120.19	FLUCONAZOLE 100MG TABLET Total	833
\$ 4.19	\$4,124.32	PREVACID 30MG CAPSULE Total	985	\$ 4.92	\$3,915.00	EPIVIR 150MG TAB (3TC) Total	795
\$ 3.91	\$3,846.14	PLAVIX 75MG TABLET Total	983	\$ 23.59	\$17,806.72	TRUVADA 200-300MG TABLET Total	755
\$ 2.66	\$2,456.84	BECONASE AQ 0.042% NAS SPR Total	925	\$ 9.90	\$7,367.25	ABILIFY 15MG TABLET Total	744
\$ 6.02	\$4,993.86	HUMALOG 100UNIT/ML VIAL Total	830	\$ 6.21	\$4,345.83	LANTUS (INSULIN GLARGINE) Total	700
\$ 3.84	\$3,144.49	FLONASE 0.05% NASAL SPRAY Total	816	\$ 4.27	\$2,957.87	PREVACID 30MG CAPSULE Total	693
\$ 3.22	\$2,624.14	LIPITOR 20MG TABLET Total	814	\$ 4.12	\$2,765.74	FLONASE 0.05% NASAL SPRAY Total	672
\$ 3.22	\$2,513.06	ADVAIR 500/50MCG DISKUS Total	780	\$ 4.37	\$2,816.26	GEODON 20MG CAPSULE Total	645
\$ 3.22	\$2,511.42	LIPITOR 40MG TABLET Total	779	\$ 13.30	\$7,858.13	ZYPREXA 15MG TABLET Total	591
\$ 3.42	\$2,628.09	PROGRAF 1MG CAPSULE Total	768	\$ 4.76	\$2,785.67	SUSTIVA 600MG CAPSULE Total	585
\$ 4.58	\$3,366.24	GEODON 60MG CAPSULE Total	735	\$ 13.98	\$7,910.56	ABILIFY 30MG TABLET Total	566
\$ 4.12	\$2,758.63	ZOCOR 20MG TABLET Total	669	\$ 10.24	\$5,735.86	TOBI 300MG/5ML NEB SOLUTION Total	560
\$ 13.44	\$8,523.62	ABILIFY 20MG TABLET Total	634	\$ 8.33	\$3,982.46	ZYPREXA 10MG TABLET Total	478
\$ 5.24	\$3,144.55	LANTUS (INSULIN GLARGINE) Total	600	\$ 13.95	\$6,334.73	SUSTIVA 600MG TABLET Total	454
\$ 4.21	\$2,451.93	GEODON 20MG CAPSULE Total	583	\$ 7.11	\$2,814.67	FLOVENT*HFA**110MCG*INHALER Total	396
\$ 9.52	\$5,532.05	ABILIFY 10MG TABLET Total	581	\$ 17.79	\$5,763.19	ZYPREXA 20MG TABLET Total	324
\$ 6.39	\$3,588.74	ZIAGEN 300MG TAB Total	562	\$ 12.22	\$3,910.07	REYATAZ 150MG CAPSULE Total	320
\$ 5.93	\$3,334.33	ZYPREXA 5MG TABLET Total	562	\$ 14.18	\$4,041.24	VIREAD 300MG TABLET Total	285
\$ 5.98	\$3,107.61	FLOVENT 110MCG INHALER Total	520	\$ 18.18	\$4,944.16	ZITHROMAX 600MG TABLET Total	272
\$ 5.49	\$2,609.71	ACTOS 45MG TABLET Total	475	\$ 15.05	\$2,935.72	ZYPREXA ZYDIS 15MG TABLET Total	195
\$ 9.51	\$4,509.72	LEVAQUIN 500MG TABLET Total	474	\$ 54.20	\$7,480.21	ZYVOX 600MG TABLET Total	138
\$ 17.00	\$5,542.49	ZITHROMAX 600MG TABLET Total	326	\$ 32.31	\$4,458.38	ZOFRAN 8 MG TABLET Total	138
\$ 9.50	\$2,993.76	EPIVIR 300MG TABLET Total	315	\$ 43.96	\$5,494.49	ROCEPHIN 1GM VIAL Total	125
\$ 9.75	\$2,865.91	ABILIFY 15MG TABLET Total	294	\$ 80.38	\$9,726.54	GLEEVEC 400MG TABLET Total	121
\$ 21.37	\$5,812.64	PROZAC WEEKLY 90MG CAP Total	272	\$ 62.57	\$5,755.99	LOVENOX 100MG/ML SYRINGE Total	92
\$ 29.72	\$7,430.83	TETANUS TOXOID ADSORBED Total	250	\$ 154.24	\$8,637.21	08ENBREL 25MG KIT Total	56
\$ 43.96	\$4,747.22	ROCEPHIN 1GM VIAL Total	108	\$ 120.10	\$5,044.14	REBIF 44MCG/0.5ML SYRINGE Total	42
\$ 61.24	\$5,021.73	LOVENOX 100MG/ML SYRINGE Total	82	\$ 76.83	\$2,919.62	LOVENOX 120MG/0.8MY SYR Total	38
\$ 55.40	<u>\$2,437.53</u>	ZYVOX 600MG TABLET Total	44	\$ 301.27	\$9,640.64	AVONEX ADMIN PACK 30MCG SY Total	32
\$ 274.66	\$2,471.96	AVONEX ADMIN PACK 30MCG SY Total	9	\$ 512.99	\$3,077.94	PROCRIT 40,000UNIT/ML VIAL Total	<u>6</u>
TOTAL			<u>571,792</u>	TOTAL			<u>742,776</u>

Source: Pharmaceutical Contractor

Appendix K

Psychotropic Medication Expenditures Compared to Total Expenditures December 2000 - May 2006

Date	All Med Expenditures	All Psych Med Expenditures	% Psych to all Meds
Dec-00	\$ 66,927.12	\$ 51,191.73	76.49%
Jan-01	\$ 85,094.53	\$ 57,102.92	67.11%
Feb-01	\$ 79,541.94	\$ 49,208.19	61.86%
Mar-01	\$ 76,257.64	\$ 45,403.37	59.54%
Apr-01	\$ 57,994.54	\$ 39,805.64	68.64%
May-01	\$ 69,983.11	\$ 47,418.16	67.76%
Jun-01	\$ 47,075.72	\$ 38,505.90	81.80%
Jul-01	\$ 65,426.27	\$ 39,580.97	60.50%
Aug-01	\$ 52,366.71	\$ 42,215.83	80.62%
Sep-01	\$ 69,186.66	\$ 35,424.28	51.20%
Oct-01	\$ 30,940.72	\$ 26,928.57	87.03%
Nov-01	\$ 67,537.57	\$ 30,196.62	44.71%
Dec-01	\$ 62,550.81	\$ 32,937.71	52.66%
Jan-02	\$ 60,836.33	\$ 33,344.06	54.81%
Feb-02	\$ 54,121.41	\$ 29,976.30	55.39%
Mar-02	\$ 60,836.33	\$ 33,344.06	54.81%
Apr-02	\$ 66,386.67	\$ 27,462.04	41.37%
May-02	\$ 59,702.34	\$ 43,790.25	73.35%
Jun-02	\$ 67,307.13	\$ 45,128.48	67.05%
Jul-02	\$ 17,910.92	\$ 17,450.95	97.43%
Aug-02	\$ 47,963.55	\$ 15,261.83	31.82%
Sep-02	\$ 57,594.46	\$ 18,664.30	32.41%
Oct-02	\$ 41,365.11	\$ 18,390.59	44.46%
Nov-02	\$ 59,218.85	\$ 19,209.02	32.44%
Dec-02	\$ 70,952.08	\$ 21,605.84	30.45%
Jan-03	\$ 43,844.39	\$ 21,954.96	50.07%
Feb-03	\$ 43,903.50	\$ 17,692.47	40.30%
Jan-00	\$ 53,907.65	\$ 22,237.90	41.25%
Apr-03	\$ 50,635.51	\$ 16,036.50	31.67%
May-03	\$ 56,844.19	\$ 20,753.23	36.51%
Jun-03	\$ 75,564.91	\$ 23,032.27	30.48%
Jul-03	\$ 82,648.73	\$ 21,519.05	26.04%
Aug-03	\$ 22,525.69	\$ 20,527.38	91.13%
Sep-03	\$ 71,511.67	\$ 42,508.10	59.44%
Oct-03	\$ 93,150.10	\$ 44,392.12	47.66%
Nov-03	\$ 79,631.83	\$ 46,414.13	58.29%
Dec-03	\$ 76,589.58	\$ 48,477.60	63.30%
Jan-04	\$ 117,019.37	\$ 57,603.59	49.23%
Feb-04	\$ 51,842.92	\$ 48,545.80	93.64%
Mar-04	\$ 113,521.09	\$ 68,509.42	60.35%
Apr-04	\$ 106,004.83	\$ 81,417.89	76.81%
May-04	\$ 103,739.87	\$ 71,098.64	68.54%
Jun-04	\$ 116,482.54	\$ 74,817.79	64.23%
Jul-04	not available	not available	not available
Aug-04	not available	not available	not available
Sep-04	not available	not available	not available
Oct-04	not available	not available	not available
Nov-04	not available	not available	not available
Dec-04	\$ 79,146.95	\$ 56,004.85	70.76%
Jan-05	\$ 81,723.95	\$ 52,942.70	64.78%
Feb-05	\$ 72,806.86	\$ 48,253.83	66.28%
Mar-05	\$ 78,174.57	\$ 53,284.18	68.16%

Appendix K

Date	All Med Expenditures	All Psych Med Expenditures	% Psych to all Meds
Apr-05	\$ 86,942.23	\$ 60,845.24	69.98%
May-05	\$ 115,704.65	\$ 50,479.43	43.63%
Jun-05	\$ 82,143.53	\$ 68,579.02	83.49%
Jul-05	\$ 79,538.23	\$ 57,754.81	72.61%
Aug-05	\$ 72,181.80	\$ 54,507.08	75.51%
Sep-05	\$ 66,665.98	\$ 40,721.23	61.08%
Oct-05	\$ 42,660.24	\$ 44,503.90	104.32%
Nov-05	\$ 82,903.83	\$ 47,993.87	57.89%
Dec-05	\$ 74,617.89	\$ 40,082.07	53.72%
Jan-06	\$ 70,478.20	\$ 40,872.48	57.99%
Feb-06	\$ 81,174.14	\$ 45,723.34	56.33%
Mar-06	\$ 73,182.61	\$ 43,366.13	59.26%
Apr-06	\$ 69,655.90	\$ 35,984.65	51.66%
May-06	\$ 75,393.21	\$ 40,033.48	53.10%
TOTALS	\$ 4,239,541.66	\$ 2,489,018.74	58.71%

Source: Formulary Management Reports
Pharmaceutical Contractor

Appendix L

Coupons Given to Administration 2005-2006

<i>Date</i>	<i>Medication</i>	<i>Number</i>	<i>Price</i>	<i>Total</i>
4/27/05	Abilify 30	5	\$ 420.09	\$ 2,100.45
4/27/05	Zyprexa 30	3	\$ 534.22	\$ 1,602.66
4/27/05	Geodon 14	10	\$ 144.27	\$ 1,442.70
4/27/05	Abilify 30	5	\$ 248.84	\$ 1,244.20
4/27/05	Risperdal 30	40	\$ 248.84	\$ 9,953.60
4/27/05	Zyprexa 30	6	\$ 534.22	\$ 3,205.32
4/27/05	Abilify 30	5	\$ 420.09	\$ 2,100.45
4/27/05	Seroquel 300mg (2)	10	\$ 415.18	\$ 4,151.80
4/27/05	Risperdal 4	15	\$ 248.00	\$ 3,720.00
5/3/05	Zyprexa 30 day	9	\$ 534.22	\$ 4,807.98
5/10/05	Abilify 30 day	10	\$ 420.00	\$ 4,200.00
5/9/05	Lexapro 30 day	50	\$ 65.38	\$ 3,269.00
5/9/05	Depakote ER 60 day	10	\$ 123.18	\$ 1,231.80
5/18/05	Geodon 14 days	10	\$ 144.27	\$ 1,442.70
6/1/06	Zoloft 50mg	210	\$ 2.69	\$ 564.90
6/1/06	Depakote 60 tablets	1,200	\$ 2.05	\$ 2,460.00
6/1/06	Abilify 30mg	10	\$ 420.00	\$ 4,200.00
7/8/05	Lexapro 10mg 30 day	50	\$ 65.38	\$ 3,269.00
7/8/05	Zoloft 50mg 14 day	210	\$ 2.69	\$ 564.90
7/25/05	Zyprexa 20mg 30 day	3	\$ 534.22	\$ 1,602.66
8/23/05	Risperdal	25	\$ 248.84	\$ 6,221.00
8/25/05	Abilify	5	\$ 420.09	\$ 2,100.45
9/10/05	Depakote ER	10	\$ 200.00	\$ 2,000.00
9/25/05	Abilify	5	\$ 420.09	\$ 2,100.45
2/15/06	Risperdal 30	15	\$ 248.84	\$ 3,732.60
5/17/06	Risperdal 30	15	\$ 248.84	\$ 3,732.60
5/17/06	Zyprexa 20mg 30 day	6	\$ 534.22	\$ 3,205.32
5/24/06	Risperdal 30	5	\$ 248.84	\$ 1,244.20
6/2/06	Zyprexa 20mg 30 day	6	\$ 534.22	\$ 3,205.32
6/14/06	Zyprexa 20mg 14 day	9	\$ 249.30	\$ 2,243.70
7/23/06	Risperdal 30	3	\$ 248.84	\$ 746.52
7/23/06	Abilify	6	\$ 420.09	\$ 2,520.54
	Coupons sent to Mark Ellsworth			\$ 90,186.82
	Credit Authorizations since 5/1/05			\$ 7,640.10
	Difference			\$ 82,546.72

Appendix M

Month-to-Month Expenditures Showing Amount Credited to the Jail

<i>Invoice Date</i>		<i>Current Meds</i>	<i>Backup Meds</i>		<i>Credit</i>	<i>Coupons</i>	<i>Percent Credit to Total</i>	<i>Total</i>
11/12/2004	Oct-04	\$ 126,285.69	\$ 2,605.99	\$ 53,892.60	(\$53,892.60)	(\$136.08)	72.0%	\$ 74,863.00
12/14/2004	Nov-04	\$ 109,628.47	\$ 1,529.16	\$ 32,218.01	(\$32,218.01)	(\$238.90)	40.9%	\$ 78,700.72
1/12/2005	Dec-04	\$ 123,368.83	\$ 2,852.38	\$ 44,221.88	(\$44,221.88)	\$0.00	53.9%	\$ 81,999.33
2/9/2005	Jan-05	\$ 122,773.59	\$ 2,018.12	\$ 40,681.82	(\$40,681.82)	(\$367.82)	48.6%	\$ 83,742.07
3/10/2005	Feb-05	\$ 118,267.81	\$ 1,507.73	\$ 45,460.95	(\$45,460.95)	\$0.00	61.2%	\$ 74,314.59
4/13/2005	Mar-05	\$ 119,656.07	\$ 1,416.64	\$ 41,060.84	(\$41,060.84)	(\$420.66)	51.6%	\$ 79,591.21
5/13/2005	Apr-05	\$ 131,594.96	\$ 1,564.54	\$ 44,558.04	(\$44,558.04)	(\$94.69)	50.3%	\$ 88,506.77
6/10/2005	May-05	\$ 137,930.62	\$ 1,815.15	\$ 22,030.97	(\$22,030.97)	(\$195.00)	18.7%	\$ 117,519.80
7/18/2005	Jun-05	\$ 148,819.42	\$ 2,302.39	\$ 66,582.42	(\$66,582.42)	(\$93.47)	78.8%	\$ 84,445.92
8/10/2005	Jul-05	\$ 119,564.63	\$ 2,033.86	\$ 39,961.35	(\$39,961.35)	(\$65.05)	49.0%	\$ 81,572.09
9/13/2005	Aug-05	\$ 119,054.06	\$ 1,603.93	\$ 46,761.70	(\$46,761.70)	(\$110.56)	63.4%	\$ 73,785.73
10/11/2005	Sep-05	\$ 104,222.67	\$ 1,024.06	\$ 37,335.08	(\$37,335.08)	(\$221.61)	55.2%	\$ 67,690.04
11/10/2005	Oct-05	\$ 91,441.63	\$ 1,529.14	\$ 48,777.61	(\$48,777.61)	(\$3.78)	110.4%	\$ 44,189.38
12/9/2005	Nov-05	\$ 105,641.36	\$ 1,950.08	\$ 22,681.60	(\$22,681.60)	(\$55.93)	26.7%	\$ 84,853.91
1/12/2006	Dec-05	\$ 107,307.87	\$ 2,505.34	\$ 32,689.98	(\$32,689.98)	\$0.00	42.4%	\$ 77,123.23
2/14/2006	Jan-06	\$ 99,356.13	\$ 1,834.05	\$ 27,234.49	(\$27,234.49)	(\$1,643.44)	37.7%	\$ 72,312.25
3/8/2006	Feb-06	\$ 112,685.70	\$ 1,891.22	\$ 31,511.56	(\$31,511.56)	\$0.00	37.9%	\$ 83,065.36
4/17/2006	Mar-06	\$ 98,925.93	\$ 6,309.49	\$ 25,657.16	(\$25,657.16)	(\$86.16)	32.3%	\$ 79,492.10
5/12/2006	Apr-06	\$ 85,084.29	\$ -	\$ 15,299.28	(\$15,299.28)	(\$129.11)	22.0%	\$ 69,655.90
6/13/2006	May-06	\$ 101,315.67	\$ -	\$ 25,918.94	(\$25,918.94)	(\$3.52)	34.4%	\$ 75,393.21
Average		\$ 114,146.27	\$ 1,914.66	\$ 37,226.81	(\$37,226.81)	(\$193.29)	49.4%	\$ 78,640.83

Appendix N

Formulary Management Reported Costs Compared to Invoices, Number of Prescriptions Ordered, Number of Inmates on Psych Meds December 2000 - May 2006

Date	All Med Expenditures Formulary Mngt Report	Amount Different in Formulary Mngt Report	Date of FMR	Invoice to County	Difference	Comment*
Dec-00	\$66,927.12			discarded		
Jan-01	\$85,094.53			discarded		
Feb-01	\$79,541.94			discarded		
Mar-01	\$76,257.64			discarded		
Apr-01	\$57,994.54			discarded		
May-01	\$69,983.11			discarded		
Jun-01	\$47,075.72			discarded		
Jul-01	\$65,426.27			discarded		
Aug-01	\$52,366.71			discarded		
Sep-01	\$69,186.66			discarded		
Oct-01	\$30,940.72			\$31,814.95	\$874.23	
Nov-01	\$67,537.57			discarded		
Dec-01	\$62,550.81			discarded		
Jan-02	\$60,836.33			\$63,194.26	\$2,357.93	matches, ok
Feb-02	\$54,121.41			\$53,049.30	(\$1,072.11)	
Mar-02	\$60,836.33			\$55,722.34	(\$5,113.99)	
Apr-02	\$66,386.67			\$68,308.13	\$1,921.46	matches, ok
May-02	\$59,702.34			\$59,855.06	\$152.72	
Jun-02	\$67,307.13			\$67,307.13	\$0.00	matches, ok
Jul-02	\$17,910.92			\$31,705.98	\$13,795.06	
Aug-02	\$47,963.55			\$37,771.92	(\$10,191.63)	
Sep-02	\$57,594.46			\$59,075.00	\$1,480.54	matches, ok
Oct-02	\$41,365.11			\$44,010.38	\$2,645.27	matches, ok
Nov-02	\$59,218.85			\$63,632.65	\$4,413.80	matches, ok
Dec-02	\$70,952.08			\$71,252.88	\$300.80	
Jan-03	\$43,844.39			\$71,952.95	\$28,108.56	
Feb-03	\$43,903.50			\$59,956.73	\$16,053.23	
Jan-00	\$53,907.65			\$37,097.02	(\$16,810.63)	
Apr-03	\$50,635.51	\$44,673.62	in Jun04 rpt	\$52,593.59	\$1,958.08	Matches, ok
May-03	\$56,844.19	\$56,844.19	in Jun04 rpt	\$60,457.59	\$3,613.40	Off by \$300
Jun-03	\$75,564.91	\$65,251.17	in Jun04 rpt	\$77,652.27	\$2,087.36	Matches, ok
Jul-03	\$82,648.73	\$ 54,596.38	in Jun04 rpt	\$87,739.46	\$5,090.73	
Aug-03	\$22,525.69	\$ 22,525.69	in Jun04 rpt	\$22,102.65	(\$423.04)	
Sep-03	\$71,511.67	\$ 71,511.67	in Jun04 rpt	\$73,831.00	\$2,319.33	Matches, ok
Oct-03	\$93,150.10	\$ 93,160.10	in Jun04 rpt	\$93,150.10	\$0.00	
Nov-03	\$79,631.83			\$79,631.83	\$0.00	
Dec-03	\$76,589.58			\$76,861.54	\$271.96	
Jan-04	\$117,019.37			\$128,812.10	\$11,792.73	Matches, within \$30
Feb-04	\$51,842.92			\$69,020.45	\$17,177.53	matches, ok
Mar-04	\$113,521.09			\$95,062.90	(\$18,458.19)	Close, ok
Apr-04	\$106,004.83			\$106,004.83	\$0.00	
May-04	\$103,739.87			\$105,942.40	\$2,202.53	Emerg med
Jun-04	\$116,482.54			\$116,482.54	\$0.00	
Jul-04	not available			\$115,216.40	rpt not avail	
Aug-04	not available			\$101,794.04	rpt not avail	

Appendix N

Date	All Med Expenditures Formulary Mngt Report	Amount Different in Formulary Mngt Report	Date of FMR	Invoice to County	Difference	Comment*
Sep-04	not available			\$79,273.00	rpt not avail	
Oct-04	not available			\$74,863.00	rpt not avail	
Nov-04	not available			\$78,700.72	rpt not avail	
Dec-04	\$79,146.95			\$81,999.33	\$2,852.38	Backup med, matches, ok
Jan-05	\$81,723.95			\$83,742.07	\$2,018.12	Backup med, matches, ok
Feb-05	\$72,806.86			\$74,314.59	\$1,507.73	Backup med, matches, ok
Mar-05	\$78,174.57			\$79,591.21	\$1,416.64	Backup med, matches, ok
Apr-05	\$86,942.23			\$88,506.77	\$1,564.54	Backup med, matches, ok
May-05	\$115,704.65			\$117,519.80	\$1,815.15	Backup med, matches, ok
Jun-05	\$82,143.53			\$84,445.92	\$2,302.39	Backup med, matches, ok
Jul-05	\$79,538.23			\$81,572.09	\$2,033.86	Backup med, matches, ok
Aug-05	\$72,181.80			\$73,785.73	\$1,603.93	Backup med, matches, ok
Sep-05	\$66,665.98			\$67,690.04	\$1,024.06	Backup med, matches, ok
Oct-05	\$42,660.24			\$44,189.38	\$1,529.14	Backup med, matches, ok
Nov-05	\$82,903.83			\$84,853.91	\$1,950.08	Backup med, matches, ok
Dec-05	\$74,617.89			\$77,123.23	\$2,505.34	Backup med, matches, ok
Jan-06	\$70,478.20			\$72,312.25	\$1,834.05	Backup med, matches, ok
Feb-06	\$81,174.14			\$83,065.36	\$1,891.22	Backup med, matches, ok
Mar-06	\$73,182.61			\$79,494.10	\$6,311.49	Backup med, matches, ok
Apr-06	\$69,655.90			\$69,655.90	\$0.00	
May-06	\$75,393.21			\$75,393.21	\$0.00	

**Note: Many of the invoices included backup meds that were not included in the Formulary management report, therefore, the comparison is noted as "matches, ok."*

Numbers of Prescriptions Ordered, Number of Inmates on Psych Meds

Date	# Inmates on Meds	# Inmates on Psych Meds	% Psych Inmates to All	# Rx Ordered
Dec-00	884	426	48.19%	3447
Jan-01	853	448	52.52%	3694
Feb-01	853	419	49.12%	3291
Mar-01	911	434	47.64%	3812
Apr-01	893	415	46.47%	3617
May-01	887	417	47.01%	3741
Jun-01	885	404	45.65%	3419
Jul-01	873	354	40.55%	3238
Aug-01	860	346	40.23%	3421
Sep-01	831	312	37.55%	3275
Oct-01	804	300	37.31%	3288
Nov-01	813	264	32.47%	3274
Dec-01	1081	265	24.51%	3139
Jan-02	795	267	33.58%	3296
Feb-02	719	261	36.30%	3108
Mar-02	786	277	35.24%	3208
Apr-02	791	257	32.49%	3162
May-02	803	229	28.52%	3314
Jun-02	733	220	30.01%	3027
Jul-02	726	225	30.99%	2872
Aug-02	734	231	31.47%	2891

Appendix N

Date	# Inmates on Meds	# Inmates on Psych Meds	% Psych Inmates to All	# Rx Ordered
Sep-02	722	230	31.86%	2886
Oct-02	750	235	31.33%	2963
Nov-02	750	253	33.73%	3138
Dec-02	748	258	34.49%	3458
Jan-03	834	285	34.17%	3526
Feb-03	786	224	28.50%	4061
Mar-03	801	270	33.71%	4295
Apr-03	759	261	34.39%	2839
May-03	805	299	37.14%	3323
Jun-03	832	320	38.46%	3296
Jul-03	829	300	36.19%	3466
Aug-03	808	290	35.89%	3265
Sep-03	786	268	34.10%	3133
Oct-03	800	261	32.63%	3532
Nov-03	789	267	33.84%	3408
Dec-03	819	326	39.80%	3695
Jan-04	883	351	39.75%	3999
Feb-04	845	364	43.08%	3203
Mar-04	997	458	45.94%	4163
Apr-04	969	472	48.71%	4487
May-04	956	476	49.79%	4463
Jun-04	1007	523	51.94%	4488
Jul-04	not available	not available	not available	not available
Aug-04	not available	not available	not available	not available
Sep-04	not available	not available	not available	not available
Oct-04	not available	not available	not available	not available
Nov-04	not available	not available	not available	not available
Dec-04	1008	444	44.05%	4136
Jan-05	1020	487	47.75%	4045
Feb-05	1023	479	46.82%	3913
Mar-05	1085	507	46.73%	4179
Apr-05	1022	463	45.30%	4219
May-05	975	438	44.92%	3857
Jun-05	998	467	46.79%	4560
Jul-05	998	436	43.69%	3847
Aug-05	973	435	44.71%	3984
Sep-05	955	418	43.77%	3967
Oct-05	974	459	47.13%	4036
Nov-05	952	433	45.48%	4325
Dec-05	876	392	44.75%	4109
Jan-06	919	420	45.70%	4033
Feb-06	902	403	44.68%	3888
Mar-06	1006	429	42.64%	4235
Apr-06	795	383	48.18%	3662
May-06	867	407	46.94%	4043
TOTAL	53,138	21,662	40.77%	221,659

*Source: Formulary Management Report
Pharmaceutical Contractor*

Appendix O

Glossary of Terms

340b Drug Pricing: Drug pricing established through the Veterans Health Care Act of 1991 which allows for discounts on drug purchases for eligible entities such as disproportionate share hospitals, federally qualified health centers, among others.

Actual Acquisition Cost (AAC): The amount the medication cost to acquire.

Advanced Practical Registered Nurses (APRN): The advanced practical registered nurse is an umbrella term given to a registered nurse (RN) who has met advanced educational and clinical practice requirements beyond the two to four years of basic nursing education required of all RNs. Advanced practice registered nurses include nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives. States define what advanced practice registered nurses can do.

Advantage Financial (AFIN): Salt Lake County's general ledger system which is a complex set of software programs which processes and reports all budgeting and accounting transactions.

Average Manufacturer Price: The average price paid to the manufacturer by wholesalers for drugs distributed to the retail pharmacy class of trade, after deducting customary prompt pay discounts

Average Wholesale Price (AWP): Price based on the published Medicaid reimbursement rates for Medicare-covered drugs, used by most States

Consumer Price Index (CPI): The Consumer Price Index (CPI) is a measure of the average change in prices over time in a market basket of goods and services. The Bureau of Labor Statistics releases CPI data monthly.

Controlled Medication Flow Sheet (Flow Sheet): An inventory count sheet assigned to a controlled substance on which the number of pills in each bottle or on each card is recorded.

Controlled Substance: A drug or chemical whose manufacture, possession and use are regulated by a government.

Corrections Bureau Chief: Chief administrator over the Jail.

Current Contract: The contract with the Current Pharmaceutical Contractor which began November, 2005.

Direct-observe therapy (DOT): A nurse hands the dosage to the inmate, who is standing in the common area of the pod with a cup of water. The inmate shows the nurse that the pill was swallowed.

Director of Nursing: A registered nurse who supervises the nursing staff and who reports to the Jail Health Authority.

Drug formulary: A list of preferred drugs used to control costs and achieve satisfactory clinical results.

Electronic Medical Record (EMR): An on-line system the Jail implemented in 2000 for recording inmate medical conditions, visits by health professionals, and ordering and dispensing of medications.

Appendix O

Formulary Management Report: A report from the Pharmaceutical Contractor that includes current month's data, and also comparison data from the previous 11 months, data such as: number of medications ordered, number of inmates on medications, number of inmates on psych medications, total expended on medications for the month, and amount spent on psych medications as a separate category.

Health Care Consultant: A consultant hired by the Jail to provide advice and direction on its delivery of services. The consultant's contract required that they: "*Recommend a health services plan which may include contracting for some or all of the health services,*" and "*Develop an appropriate standard of health care for County's jails consistent with NCCHC standards...*"

Jail Executive Management System (JEMS): The electronic system at the Jail on which all the information regarding inmates is kept.

Jail Health Authority: Person who oversees day-to-day medical operations, including administration of medications.

Keep-on-person (KOP): Medication is kept by the inmate, meaning the pharmacy tech hands a blister pack card to the inmate who then takes the pills without observation. The supply of medications in the blister pack is kept in the inmate's cell.

Medical Administration Record (MAR): An 8x11 card upon which nurses track the receipt and dispensing of medications to inmates.

Medical Care Commodities (MCC): Prescription drugs, nonprescription over-the-counter-drugs, and other medical equipment and supplies.

Medical Contractor: The person responsible for medical care of all inmates.

Mental Health Contractor: The organization contracted to oversee mental health issues of all inmates. The Mental Health Contractor issues a monthly statistical report of its Jail operations that includes data on numbers and types of mentally ill patients and the frequency with which a health care professional visited them, including visits by a professional that can prescribe medications.

Mental Health Court: An alternative court for inmates who have a mental illness. Participants in Mental Health Court are required to follow a program of medication and therapy to address their symptoms. They must appear in court once a week, on Monday, to report progress to the Mental Health Court judge.

Mental Health Manager: The person hired by the Mental Health Contractor to oversee the mental health program at the Jail.

National Commission on Correctional Health Care (NCCHC): A correctional organization that offers accreditation that signifies jails meet professional standards for services.

Pharmaceutical Contractor: A large pharmacy, based in Pennsylvania, which provides all medications to the Jail.

Pharmaceutical Research and Manufacturers of America (PhRMA): The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the country's leading pharmaceutical research and biotechnology companies, which are devoted to inventing medicines that allow patients to live longer, healthier, and more productive lives and search for new cures.

Appendix O

Pharmacy and Therapeutics Committee: A Committee that meets to discuss current trends in prescriptive practice, errors at the facility, and proposed changes to the formulary. The committee meets quarterly and currently is chaired by the Medical Contractor.

Pharmacy Technician: An employee of the jail who is licensed after attending a nine-month course.

Prior Contract: Contract with the Pharmaceutical Contractor that began in 2001 and ended in 2006.

Producer Price Index (PPI): Measures the average change over time in the selling prices received by domestic producers for their output.

Selective Serotonin Reuptake Inhibitors (SSRI): “Atypical” antipsychotic drugs and new generation antidepressants, a class called “*selective serotonin reuptake inhibitors*,”

Severely and Persistently Mentally Ill (SPMI): Persons who display severe psychoses, including bipolar disorder or schizophrenia.

Social Security Disability Income (SSDI): Wage replacement income for individuals who have paid FICA taxes that meet Social Security's rules for disability. SSDI benefits are payable to disabled workers, widows, widowers, and children or adults disabled since childhood who are otherwise eligible.

“Stock” medications: Certain medications, including over-the-counter drugs, kept on hand for ready access as needed. The make up of the stock inventory is determined by the Pharmacy and Therapeutics Committee.

Valley Mental Health (VMH): Valley Mental Health is a private, not-for-profit agency, who contracts with Salt Lake County to provide mental health services to its citizens.

SALT LAKE COUNTY
SHERIFF'S OFFICE

James M. Winder
SHERIFF

Beau Babka
UNDERSHERIFF



Rollin Cook
CHIEF DEPUTY

Shane Hudson
CHIEF DEPUTY

OFFICE OF THE SHERIFF ★ 2001 SOUTH STATE STREET, SUITE S-2700 ★ SALT LAKE CITY, UTAH 84190 ★ 801-468-3931

Jeffrey B. Hatch
Salt Lake County Auditor's Office
2001 South State Street #N3300
Salt Lake City, Utah 84190-1100

March 14, 2007

James M. Winder
Salt Lake County Sheriffs Office
2001 South State Street #S-2700
Salt Lake City, Utah 84190-1100

Dear Sir,

I have received and reviewed the 2007 Salt Lake County Jail Pharmaceutical Unit Audit completed by your staff.

I believe the audit is extremely well done and summarizes many of the very complex issues facing our correctional medical staff.

I have also reviewed the response submitted by Mr. Mark Ellsworth, Salt Lake County Sheriffs Office Health Services Director. Mr. Ellsworth, in his response, articulates important information and identifies potentially skewed data that may have a significant impact with respect to both internal and external perceptions of this very important document. It is my strong desire that the issues raised by Mr. Ellsworth are investigated further and a determination made regarding their validity and impact prior to the reports further dissemination.

I and our staff are anxious to continue working with you in any way to ensure you are provided any and all information necessary to produce a balanced report.

Sincerely,

James M. Winder
Salt Lake County Sheriff

Salt Lake County

James M. Winder
Sheriff

Beau Babka
Undersheriff

Rollin Cook
Chief Deputy

Kevin Harris
Services Division Administrator



Corrections Bureau
3415 South 900 West
South Salt Lake, Utah 84119-4103

Work: (801) 743-5023
Fax: (801) 743-5210
Cellular: (801) 450-8080
E-mail : kharris@slco.org

Sheriff's Office

March 15, 2007

Corrections Bureau Services Division ★ 3415 South 900 West ★ Salt Lake, Utah 84119-4103 ★ 801-743-5023

To: Jeff Hatch
From: Health Services Administration
RE: Response to Pharmaceutical Operations Performance Audit

Mr. Hatch,

Thank you for the opportunity to review and respond to the Pharmacy Audit. We have evaluated the audit and have a number of comments that are detailed below. For the purposes of organization, the comments will follow the structure of the executive summary, which is also mirrored in the body of the document.

We have empathy for the auditors who tackled the project, as we fully know the magnitude and complexity of pharmaceutical management. Our intimate knowledge of this multifaceted operation puts us in a unique position to provide some feedback and clarification regarding this audit.

Changes in Drug Utilization

The audit suggests that prior to 2004, prisoners with HIV were refused from jail. This is not accurate. We have always accepted HIV positive patients and that condition, in and of itself, was never utilized as a criteria for refusal. The only change in our acceptance criteria occurred in 2004 with a significant shift in policy regarding pregnant women. Prior to 2004, women with high risk pregnancies were considered inappropriate for incarceration. However, due to political pressure and pressure from the judiciary, the jail administration greatly expanded the acceptance criteria which resulted in more pregnant women incarcerated. This has had significant impact on the healthcare staff, outside sendouts, and pharmaceutical costs.

The Effect of Price Decrease on Quantities Ordered

The audit engages in analysis of price elasticity for various price categories of medications over time and postulates that decreases in cost should be matched with increases in utilization. In certain circumstances this elasticity was observed, in others the elasticity was not observed. While this exercise is interesting from an academic "what-if" scenario, it greatly underestimates the complexity of the decision matrices that are in place in modern medical management.

For example, the audit observes that ibuprofen utilization did not show the expected elasticity while its price and utilization decreased over time. The driver for this observation is not price, but rather changing treatment guidelines for the use of the medication. The jail population has approximately 30% baseline prevalence of hepatitis C. Recent studies have shown that the use of chronic ibuprofen in patients with hepatitis C is contraindicated. As a result, ibuprofen is now not an advisable pain management technique for a large percentage of the jail population—therefore its use decreases.

All of the medications cited in this audit where the response was "atypical" have seen similar treatment/usage changes over the last 10 years and the choice for those medications is driven by treatment guidelines, not merely price.

The audit conclusion that something other than classic reaction of demand to price is exerting influence over the pharmaceutical utilization is accurate. However, we suggest that the "other" driver is the ever-evolving medical treatment guidelines as opposed to the contract terms that include a dispensing fee.

Some Medications at the Jail Cost Significantly more than at Other Jails Nationwide

We reviewed the study methodology for the development of this section and we feel that this entire section and its conclusions are not valid.

1. The auditors contacted other jails and asked for a price-per-pill for a number of common medications. They then compared this to [REDACTED] price per pill for those same medications. Comparing these two numbers does not allow one to draw any meaningful conclusions because the numbers represent two completely different things:
 - a. The price-per-pill is purely the acquisition cost of the medication with no overhead taken into account.
 - b. The service that we purchase from [REDACTED] includes the acquisition cost of the medication plus packaging labor and materials, pharmacist professional review of prescriptions, shipping, and 24-hour pharmacist on-call service. While the auditors do correctly note that no explicit dispensing fee was charged on the medications during the period that they studied, common sense would dictate that the "dispensing fee" was built into the old contract pricing schedule and therefore the choice of December 2005 as the study period does not make the data comparable.
2. Unless the auditors are able to square up the comparison so that all overhead (pharmacist salary, packaging costs, pharm tech wages, etc) is included in the price that the other jails charge or that all overhead is excluded from [REDACTED] pricing and that ONLY acquisition costs are compared, this section should be labeled with a disclaimer on the front of this section to explain to the reader that the data is not directly comparable.

Mental Health in the Correctional System

The report states that psychotropic medication prescriptions are written by medical doctors, physician assistants and nurse practitioners. Medical physicians only prescribe psychiatric medications in emergency situations or when using a cross-over medication that is indicated not only for psychiatric reasons, but also for certain medical conditions.

Controlled Substances

The report states, "An overall control sheet should be produced that lists each bottle or blister pack and is cross-referenced with the flow sheet of twice-daily individual pill counts." This is a very good idea that the Jail has implemented.

Miscellaneous

On page 67, the name of the consultant is Jackie Moore and Associates.

Response to Audit prepared by Mark Ellsworth, Health Authority.

Respectfully,



Kevin Harris
Division Administrator

Cc: File