Pharmacy Department
SAN MATEO COUNTY

Operations Review Report

April 22, 2003

Office of County Controller
Audit Division

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San Mateo Medical Center Pharmacy Department
Operational Review

Executive Summary

We reviewed pharmacy operations in collaboration with the San Mateo Medical Center's Chief Operating Officer, Pharmacy Director and other personnel.
The primary focus of the review was to:

- Determine the viability of implementing manufacturer-sponsored Patient Assistance Programs (PAPs) that provide medication assistance to low-income individuals and expanding the 340B Discount program to the clinics.
- Review the effectiveness of the drug formulary in cost containment.

We also reviewed system controls and controls over purchasing, inventory and cashiering.

Nationwide -
Annual increase in amount spent on Prescription Drugs: 11%
Average price of prescriptions: $49
Number of people with no health insurance at some point during 2001-2002: 1 in 3

San Mateo Medical Center -
Annual drug expense: $5m
Decrease in drug expense between FY 2001 & FY 2002: 8%
Average cost of prescriptions: $30
Indigent patients: 1 in 3

The pharmacy is a division of the San Mateo Medical Center. The division is managed by a Pharmacy Director and has 19 other full time employees. The primary function of the pharmacy is filling prescriptions for inpatients and outpatients at the 39th Avenue site. The Medical Center management has strived to achieve the pharmacy's goals and objectives in a financially restrictive environment and has been proactive in improving processes and maximizing cost savings. One of the notable accomplishments has been the implementation of the 340B Discount Program resulting in significant reductions in drug expenditures.

Our review indicates annual ongoing cost savings and revenue enhancement opportunities of over $1,000,000 - see Table 1 on page 2. The following is a summary of opportunities identified from our review:

- ***Expanding 340B Discount program to North County and Fair Oaks Clinics can provide annual on-going cost-savings and revenue enhancement opportunities of $500,000***

  The Medical Center qualified for the 340B Discount Program under which pharmaceutical manufacturers participating in the Medicaid program provide discounts on covered outpatient drugs. An in-house pharmacy is necessary to meet the record-keeping requirements of the Program. The Medical Center currently saves approximately 45% on outpatient drugs purchased by the pharmacy under this program. Establishing in-house pharmacies at the North County and Fair Oaks clinics and implementing Section 340B Discount Program for drug purchases at the two clinics will increase cost savings and revenue.

- ***Cost-savings of between $226,000 and $634,000 can be realized by utilizing Patient Assistant Programs (PAPs) offered by pharmaceutical companies***

  Pharmaceutical companies offer medication assistance programs to low-income individuals and families. One-third of the Medical Center's patients are indigent. The Medical Center has not been able to take advantage of these programs due to lack of staffing resources needed for the enrollment process, which is time-consuming and stringent and varies among manufacturers. Our analysis based on data from three agencies that have implemented PAPs indicates that the Medical Center can realize net savings after paying for two full time staff needed to administer the PAPs. The projected net savings will increase if existing staff is assigned to the PAPs, where feasible.

Executive Summary

- ***Cost-savings of up to $203,000 can be realized through a more effective use of the drug formulary***

  The Medical Center has adopted a "closed" formulary that limits prescriptions to drugs in the formulary. Current policy is to have the cheaper generic equivalents of brand name drugs on the formulary, where possible. Our benchmark research in this area indicates that generic drugs account for 40 to 45 percent of prescriptions dispensed, generating 10 to 20 percent of overall drug costs. The Medical Center's generic drugs cost is 10 percent of overall drug costs, which is at the lowest end of the benchmark range. Outpatient drug expenditures make up over 60 percent of overall drug costs and has a generic portion of 7 percent, which is below the benchmark range. Using a generic portion benchmark of 17 percent based on five-year nationwide statistics, we estimate cost savings opportunity of up to $203,000 through a more effective use of the formulary.

Table 1: Summary of Ongoing Annual Cost Savings and Revenue Enhancements Opportunities:

Expanding 340B Discount program to satellite clinics*	$ 500,000
Implementing Patient Assistant Programs	355,000
Better formulary management	203,000
Purchasing generic over brand name drugs	37,000
Total	**$ 1,095,000**

* Amount for the first year will be lower due to set-up costs

- ***Other opportunities for improvement:***

  - The Medical Center should have a process that verifies the interface between the pharmacy systems and the patient accounting system to ensure that all pharmaceutical services rendered are accounted for and, where applicable, billed to patients, insurance and other payer groups.

  - We noted instances where the Medical Center paid Cardinal Health, the major vendor, higher than the agreed upon rate for drugs covered under the 340B Discount Program. While it may not be practical for the pharmacy to review every purchase due to the large volume of drug purchases, review procedures are necessary that can detect material overcharges so that appropriate credits or adjustments are obtained in a timely manner.

  - The pharmacy may be able to realize additional cost savings through a more effective utilization of features in Cardinal Health's system that facilitate purchasing drugs at the lowest cost.

  - The Sure Med cabinet system currently used to dispense narcotics does not have the capability to verify the patient numbers keyed-in to gain access. To minimize the risk of unauthorized acquisition of narcotics, cognizant senior personnel independent of dispensing of narcotics should periodically review Sure Med reports for any unusual activity. An interface between Sure Med and the inpatient pharmacy system can enable automated controls that will minimize this risk.

  - Management should consider doing a feasibility study of purchasing additional cabinets for the dispensing of non-narcotics to inpatients, which will make available the time it currently takes to manually fill and review cassettes for other key functions in the division.

Executive Summary

- The current lack of formal procedures at the pharmacy could result in undetected losses and inefficient inventory management. Adequate documentation of key policies and procedures is necessary to communicate clearly management's expectations of sound actions from personnel thereby increasing personnel's ability to meet those expectations.

- Currently, everyone in the pharmacy has access to the cash drawer. Employees who receive cash from patients also prepare the daily cash reconciliations, which are not reviewed or verified. Access to the cash drawer should be restricted to designated cashiers so that there is accountability for any cash discrepancies. Someone other than the cashiers should review daily cash reconciliations.

As noted above the Medical Center management has strived to achieve the pharmacy's goals and objectives in a financially restrictive environment and has been proactive in improving processes and maximizing cost savings. This collaborative review focused primarily on programs that provide free drugs or drugs at discounted prices and the drug formulary. There are other core issues that affect pharmacy's operations that were not part of this review. One of these core issues is utilization management, which is central to the success of any health plan. The goal of utilization management is to ensure that the limited available resources are used appropriately. In addition to ensuring that the treatment is both reasonable and medically necessary, clearly defined criteria are necessary to determine that the patient qualifies for treatment (e.g. a county resident) and an accurate assessment is made regarding coverage through insurance or under federal, state or other programs. The Medical Center should consider procuring an operational review of its patient-eligibility determination process.

Background Information

The pharmacy is a division of the San Mateo Medical Center, an enterprise fund, and is located in the main Medical Center building at 222 West 39th Avenue in San Mateo. The division is managed by a Pharmacy Director and has 19 other full time employees - 9 pharmacists, 7 pharmacy technicians, 3 Patient Services Assistant II's. The primary function of the pharmacy is filling prescriptions for inpatients and outpatients at the 39th Avenue site. At times, the pharmacy also supplies or stocks drugs for Emergency Medical Services, Mental Health Services, Public Health Services, and the satellite clinics.

In fiscal year 2002 total drug expenditure was about $5 million. Cardinal Health, the Medical Center's primary vendor, supplies over 90 percent of total drugs purchased. The Medical Center became eligible for the 340B Discount program in December 2000, as a result of which total drug expenditures declined by 8 percent in fiscal year 2002 even when prescription volume increased by the same percentage. Drug expenditures had increased by 13% in the prior fiscal year. Our analysis shows that the full impact of the 340 Discount program will realize annual cost savings of between 40 and 50 percent. The large increase in 'Other Charges' in fiscal year 2002 was due to upgrading of Autros, the inpatient pharmacy system, which cost about $225,000.

PHARMACY DIVISION - FINANCIAL DATA

	FY 2000	FY 2001	FY 2002
Net Patient Revenue	1,762,848	1,910,715	2,155,926
Miscellaneous Revenue	27,810	90,413	47,800
Total Revenue:	1,790,658	2,001,128	2,203,726
Salaries & Benefits	1,221,162	1,536,602	1,626,032
Drug & Pharmaceuticals	4,748,766	5,361,080	4,952,804
Other Services & Supplies	100,557	426,576	177,995
Other Charges	7,521	5,321	230,798
Total Expenses:	6,078,006	7,329,579	6,987,629
Net	**$(4,287,348)**	**$(5,328,451)**	**$(4,783,903)**
Outpatient Prescriptions		102,690	110,571
IV's Filled		36,766	40,154

The Medical Center and the pharmacy provide medical and pharmaceutical services regardless of the patient's ability to pay. One-third of the patient population is indigent - individuals who do not have the ability to pay due to lack of personal resources and lack of financial support from federal or state governments or other sources.

Notable Accomplishments

Pharmacy staff works with the patient and the patient's health care providers to promote health, prevent disease, and improve quality of life by achieving positive clinical outcomes. The Medical Center and pharmacy management recognize the integrated role that drug therapy plays in achieving these goals and the need for realistic economic expenditures. The management has strived to achieve these difficult goals in a financially restrictive environment and has been proactive in improving processes and maximizing cost savings. The following are some recent notable accomplishments:

- Implementation of the 340B Discount Program resulting in significant reductions in drug expenditures for outpatient drugs.
- Received MEDPIN award for implementation of Pharmaceuticals in Need Program.
- Handled the increase in prescription volume with the same number of staff.

Purpose and Scope

The Medical Center has come under increasing financial pressure, since funding sources of support for indigent care programs remains fixed or limited. Drug expenditures are growing much faster than the cost of other health services. The amount spent on prescription drugs nationwide increased by 17 percent between 2000 and 2001. According to the Centers for Medicare and Medicaid Services, spending on prescription drugs will continue to increase at annual rates of 10 to 12 percent through 2010.

Our review of pharmacy operations was performed in collaboration with the Medical Center's Chief Operating Officer, Pharmacy Director and other personnel, and focused on identifying cost saving and revenue enhancement opportunities and process improvements. The primary focus was on the following:

- Determining the viability of expanding or implementing programs that provide free drugs or drugs at discounted prices: manufacturer-sponsored Patient Assistance Programs (PAPs) and the 340B Discount Program (340B)
- Reviewing the effectiveness of the drug formulary in providing patients with optimal drug treatment at the lowest possible cost to the Medical Center.

We also reviewed system controls and controls over purchasing, inventory and cashiering.

Methodology

To achieve our audit objectives we performed the following audit procedures:

- Interviewed Medical Center personnel.
- Researched avenues available to the Medical Center to enhance the ability to maximize reimbursement of pharmaceuticals purchased for its patients.
- Observed current processes within the department.
- Reviewed drug purchasing data from Cardinal health, pharmacy benefits manager (PBM), and IFAS (County accounting system).
- Reviewed applicable laws and regulations.
- Surveyed other facilities and reviewed national surveys for benchmarking purposes.
- Conducted detailed analysis/testing of certain areas within the Pharmacy operations.

Based on our review we made recommendations where we saw an opportunity for improvement.

Opportunities for Improvement

1. Section 340B Discount Program - Clinics

Under Section 340B of the Public Health Service Act, pharmaceutical manufacturers participating in the Medicaid program provide discounts on covered outpatient drugs purchased by specified government-supported facilities. An in-house pharmacy is necessary to meet the record-keeping requirements of the Program. The Medical Center qualified for the 340B Discount Program in December 2000 and pays approximately 45% less on outpatient drugs purchased from Cardinal Health by its pharmacy.

Prescriptions issued by the satellite clinics are filled at local pharmacies. The Medical Center pays for the drugs dispensed to its indigent patients by the local pharmacies. The objective of our analysis was to determine the efficacy of implementing the Section 340B Discount Program for the satellite clinics, which would require establishing fully operational in-house pharmacies at the clinics.

Fair Oaks and North County clinics were selected out of 12 clinics for this analysis. Fair Oaks and North County clinics each handle about 30% (60% in total) of all the clinics' drug prescriptions and therefore have the prescription volumes that would make in-house pharmacies viable. North County also has pharmacy facilities that will require minor renovation.

Table 2 shows a two-year financial projection of operating in-house pharmacies under the 340B Discount Program at Fair Oaks and North County Clinics. Based on the projection the pharmacy could realize additional net revenue of about $500,000 annually on an ongoing basis. The first year projection shows a smaller net gain due to set-up costs.

The increase in MediCal revenue represents the excess of MediCal revenue received for eligible prescriptions filled by the two pharmacies over the discounted cost of those prescriptions. The increase in MediCal revenue is contingent on the continuation of San Mateo Health Plan, the County's current Medi-Cal administrator, and the existing contractual arrangements with MediCal.

Table 2: Projected Return on Investment - In House Pharmacies at North County & Fair Oaks Clinics

	Year 1	Year 2
Cost Savings/ Revenue		
Cost Savings - 340B Discounts	$ 428,000	$ 428,000
Increase in MediCal Revenue	661,000	661,000
	1,089,000	1,089,000
Set-up Costs		
- Equipment	94,000	-
- Building Improvements	123,000	-
Total Set-up Costs	217,000	-
Recurring Expenses		
- Salaries & Benefits	468,000	491,000
- Leasing Equipment	77,000	77,000
- Rental & Maintenance	14,000	14,000
Total Recurring Expenses	559,000	582,000
	776,000	582,000
Net Gain	$ 313,000	$ 507,000

Details at Appendix 1

The 340B Discount savings and MediCal revenue increase projections are based on data provided by the Medical Center and its major drug vendor. Salaries and benefits expense is based on 3 full time equivalent (FTE) positions - Pharmacist, Pharmacist Technician, and Patient Assistant. Any reorganization that eliminates the need to increase one or more FTE positions will contribute to a higher net gain to the Medical Center. Other expense projections were provided by the Medical Center.

Recommendation 1
We recommend the Medical Center establish in-house pharmacies at the North County and Fair Oaks clinics and take other necessary steps to implement Section 340B Discount program for drug purchases at the two clinics. Since the program's success is contingent on the continuation of San Mateo Health Plan and the existing contractual arrangements with MediCal, any additional staffing should be on a contractual or temporary basis.

2. Patient Assistant Programs (PAPs)

Pharmaceutical companies offer medication assistance programs to low-income individuals and families. Typical prerequisites for these manufacturer-sponsored programs include physician authorization and stringent requirements relating to proof of patient's financial status and the lack of health insurance or lack of prescription drug benefit through health insurance.

PAPs generally apply to indigent patients. Based on our analysis, one-third of the Medical Center's patients are indigent. The Medical Center has not been able to take advantage of these programs due to lack of staffing resources needed for the enrollment process, which is time-consuming and stringent and varies among manufacturers.

We performed an analysis to determine the viability of PAPs for the Medical Center using data from three agencies that have implemented PAPs – Health Services Agency's Mental Health Services Division, San Joaquin County and Sacramento County. Table 3 summarizes the results of our analysis. Projected net annual savings from utilizing PAPs at the Medical Center range from $226,000 to $634,000.

Table 3: PAP's - Savings Projections for San Mateo Medical Center based on benchmark data

	Savings rates achievable per benchmark data		
	Average	Minimum	Maximum
	46%	34%	72%
Projected Gross Savings based on benchmark savings rates	$ 493,000	$ 364,000	$ 772,000
Salaries & Benefits Expense	(138,000)	(138,000)	(138,000)
Projected Net Savings - Annual	$ 355,000	$ 226,000	$ 634,000

Medical Center's Annual Drug Expenditure Projections

- Total Outpatient Drug Expenditures	$ 3,217,000
- Indigent Outpatient Drug Expenditures	$ 1,072,000

See Appendix 2 for details

The Mental Health Services Division has been successfully utilizing PAPs for over two years now. The Medical Center can take advantage of the Division's experience when implementing PAPs. Research shows other facilities using Patient Assistant Programs had lower savings initially but experienced increased savings soon after the first year. The extent of PAPs success is directly related to program personnel's effectiveness in identifying eligible patients, processing patient's applications and dealing with the pharmaceutical companies. To ensure effectiveness, program staff needs to operate in close proximity to the Pharmacy so that indigent patients are screened for eligibility before their prescriptions are filled.

The salaries and benefits expense in Table 3 is based on two full time equivalents –an Administrative Assistant II and a Patient Service Assistant II. The projected net savings to the Medical Center will increase if it is able to reassign existing staff to the program.

Recommendation 2
The Hospital should utilize Patient Assistance Programs to maximize cost savings relating to indigent outpatient drug expenditures.

3. Formulary Management

To ensure optimal and cost-effective drug use, hospitals and health plans use a listing of preferred prescription medications or a drug formulary, which physicians are required to adhere to when dispensing prescriptions. The Medical Center has adopted a "closed" formulary that limits prescriptions to drugs in the formulary. Current policy is to have the cheaper generic equivalents of brand name drugs on the formulary. Brand names are permissible when there are no generic equivalents.

Table 4 shows the brand name and generic composition of the Medical Center's drug expenditures. Generic equivalents make up 10 percent of total drug expenditures. A further analysis shows that the outpatient generic portion (7 percent) is one-half the inpatient generic portion.

Table 4: Brand Name vs. Generic - Drug Expenditures

	Generic	Brand Name
Inpatient	14%	86%
Outpatient (O/P)	7%	93%
Overall	10%	90%
Benchmark-O/P	17%	83%

Outpatient Drug Expenditures

	Current	Benchmark
Brand Name	$ 2,600,000	$ 2,155,000
Generic	199,000	441,000
Total	$ 2,799,000	$ 2,596,000
Potential Annual Savings		**$ 203,000**

Our benchmark research in this area indicates that generic drugs should generally account for 40 to 45 percent of prescriptions dispensed, generating 10 to 20 percent of overall drug costs. The Medical Center's generic drugs cost is 10 percent of overall drug costs, which is at the lowest end of the benchmark range. The outpatient generic portion of 7 percent is lower than the benchmark range. We were not able to obtain a report of prescriptions dispensed (utilization report) that would have enabled us to compare the Medical Center's generic drugs dispensing rate to the benchmark range.

To estimate the potential cost savings opportunity we used a five-year nationwide statistics on generic drugs dispensed and sales (see Appendix 3) to derive a benchmark of 17 percent as the portion of generic drugs cost to overall drugs costs. The Schneider Institute for Health Policy at Brandeis University released a report in January 2002 based on a systematic research quantifying the potential savings that can be realized from the greater use of generics. One of the findings in the report was that for every one percent increase in generic drugs use there is a 0.73 percent decline in overall drug costs.

Outpatient drug expenditures make up over 60 percent of overall drug costs and have a significantly lower generic portion than the benchmark and therefore have a relatively large cost savings opportunity. Using benchmarks noted above, our analysis shows potential annual savings of about $203,000. This is supported by our test data that showed actual missed cost-savings opportunity of $50,000. As part of our review we looked at generally accepted methods used by other entities that achieve relatively higher percentages of generic drugs usage. Appendix 4 summarizes the commonly used methods.

By using a closed formulary the Medical Center has achieved significant cost savings over the years. As noted above we were not able to obtain a drug utilization report. The pharmacy and therapeutics (P&T) committee, pharmacy personnel and others within the organization need appropriate reports to monitor compliance, measure performance against set targets and obtain other pertinent information relating to the formulary to ensure that effective corrective actions are taken in a timely manner.

Recommendation 3
The Medical Center should establish appropriate processes that maximize savings by purchasing cheaper generic equivalents of brand name drugs wherever possible. Such processes should include adequate monitoring and ensuring compliance with the formulary.

4. Reconciliation between Systems – Controls over Billing

The pharmacy uses two systems to account for medications dispensed to patients – Autros for inpatients and Etreby for outpatients. These systems interface with and update the patient accounting system (CORE) with pertinent pharmacy data related to medications dispensed to patients. The CORE system handles billings to patients, insurance and other payer groups.

Currently there is no process in place to ensure that the interface between the pharmacy systems and the patient accounting system is complete and accurate. As a result, it is not possible to verify that all pertinent pharmacy data is transferred to CORE, and patients are billed for all the pharmacy services provided to them.

Recommendation 4
The Medical Center should have a process that verifies the completeness and accuracy of the interface between the pharmacy systems and the patient accounting system to ensure that all pharmaceutical services rendered are properly accounted for and, where applicable, billed to patients, insurance and other payer groups.

5. Controls Over Purchasing – Buying at the Lowest Price

Drugs purchased through the 340B Discount Program are at rates fixed by the Office of Pharmacy Affairs (OPA). Cardinal Health bills the Medical Center an agreed upon rate, which is the OPA rate plus 1½ percent. As part of our test-work we recomputed the rates charged by Cardinal Health for drugs covered under the 340B Discount Program and noted instances where the Medical Center paid higher than the agreed upon rate.

Pharmacy personnel use Cardinal Health's system for purchasing pharmaceuticals. The system has features that facilitate purchasing drugs at the lowest cost. We annualized the results of our review of four months data for fiscal year 2003 to get an indication of the current performance. The annualized estimate of lost cost-saving opportunity based on this data is $37,000. This number has been adjusted for those instances when the cheaper drug is unavailable at the time of purchase.

Due to the large volume of drug purchases it may not be practical for the pharmacy to review every purchase. However, review procedures are necessary that can detect material overcharges so that appropriate credits or adjustments are obtained in a timely manner.

Recommendation 5a
The pharmacy should implement procedures that ensure that material overcharges by vendors are detected and the necessary credits or adjustments are obtained in a timely manner.

Recommendation 5b
The pharmacy should take full advantage of features in the Cardinal Health's system that facilitates purchasing drugs at the lowest cost.

6. Inventory Management

Narcotics Inventory
Currently only authorized personnel can dispense narcotics from Sure Med cabinets located on all inpatient floors by entering their passwords and an eight-digit patient number. At present Sure Med does not have the capability to verify the patient number therefore will accept any eight-digit patient number. There is a risk of authorized personnel accessing the Sure Med system by entering a fictitious eight-digit number to acquire narcotics for unauthorized purposes. An interface with the inpatient pharmacy system can enable automated controls that reject invalid patient numbers and provide a readily available trail of narcotics usage for physician review.

Non-narcotics Inventory
A significant portion of the pharmacy staff time is spent on filling prescriptions. There appears to be a significant opportunity for streamlining this process by utilizing automated cabinets, which interface with the inpatient pharmacy system, to dispense prescriptions. Automation would make available the additional time it currently takes to manually fill and review cassettes for other key functions in the division (i.e. pharmacist clinical duties).

General Controls
As part of our test-work, we compared purchased quantities to usage for a sample of drugs. We also compared inventory controls at the hospital pharmacy with controls at other comparable pharmacies. While our test-work did not disclose any significant discrepancies between purchases and usage, current lack of formal procedures at the pharmacy could result in undetected losses and inefficient inventory management. Adequate documentation of key policies and procedures communicates clearly management's expectations of sound actions from personnel and therefore increases personnel's ability to meet those expectations.

Recommendation 6a
To minimize the risk of unauthorized acquisition of narcotics, cognizant senior personnel independent of dispensing of narcotics should periodically review Sure Med reports for any unusual activity. An interface between Sure Med and the inpatient pharmacy system can enable automated controls that will minimize this risk.

Recommendation 6b
Management should consider doing a feasibility study of purchasing additional cabinets for the dispensing of non-narcotics to inpatients.

Recommendation 6c
We recommend the Medical Center establish written policies and procedures over inventory controls and management. Such policies and procedures should be made readily available to employees.

7. Cash Handling Procedures

Currently, everyone in the pharmacy has access to the cash drawer. Employees who receive cash from patients also prepare the daily cash reconciliations, which are not reviewed or verified. This unrestricted access and lack of separation of incompatible functions and review could result in undetected loss of cash. There is also a risk that management may not be able to hold any one person accountable for any loss that is discovered. To minimize these risks access to cash is normally restricted (e.g. through the use of a cash register) to designated cashiers who are accountable for any cash discrepancies.

Recommendation 7
Access to the cash drawer should be restricted to designated cashiers. Someone other than the cashiers should review daily cash reconciliations.

Implementation Plan

We recommend the Medical Center develop a detailed implementation plan and timeline for addressing these recommendations. As a service to our clients we automatically schedule a one-year follow up review on all recommendations.

Appendices

Appendix 1
340B Discount Program
Projected Return on Investment - In House
Pharmacies at North County & Fair Oaks Clinics

	North County	
Cost Savings / Revenue Enhancement	**Year 1**	**Year 2**
Cost Savings - 340B Discounts	$ 280,000	$ 280,000
Revenue Increase - Increase in MediCal Recov	$ 196,000	196,000
Cost savings/ Revenue enhancement before expenses	476,000	476,000
Expenses		
One Time		
Equipment	47,000	-
Building Improvements	50,000	-
Total One Time Expenditures:	97,000	-
Recurring		
Salaries & Benefits	234,000	245,500
Leasing Equipment	38,400	38,400
Rental & Maintenance	7,200	7,200
Total Recurring Expenditures:	279,600	291,100
Total Expenses	376,600	291,100
Net Gain	$ 99,400	$ 184,900

	Fair Oaks	
Cost Savings / Revenue Enhancement	**Year 1**	**Year 2**
Cost Savings - 340B Discounts	$ 148,000	$ 148,000
Revenue Increase - Increase in MediCal Re	465,000	465,000
Cost savings/ Revenue enhancement before expenses	613,000	613,000
Expenses		
One Time	47,000	-
Equipment	73,000	-
Building Improvements	120,000	-
Total One Time Expenditures:		
Recurring		
Salaries & Benefits	234,000	245,500
Leasing Equipment	38,400	38,400
Rental & Maintenance	6,300	6,300
Total Recurring Expenditures:	278,700	290,200
Total Expenses	398,700	290,200
Net Gain	$ 214,300	$ 322,800

Appendix 2

Patient Assistance Programs
Projected Savings

	San Mateo County Medical Center	Benchmark Data ----------> Average	San Joaquin	Sacramento County	SMC-Mental Health Div
Total Indigent OP Drug Expenditures	$ 1,072,000	$ 3,234,028	$ 1,096,083	$ 7,000,000	$ 1,606,000
Total Savings - Gross		$ 1,480,234	$ 790,703	$ 3,100,000	$ 550,000
Total Savings - Net		46%	72%	44%	34%
Number of years		3.4	2.2	4.3	3.7

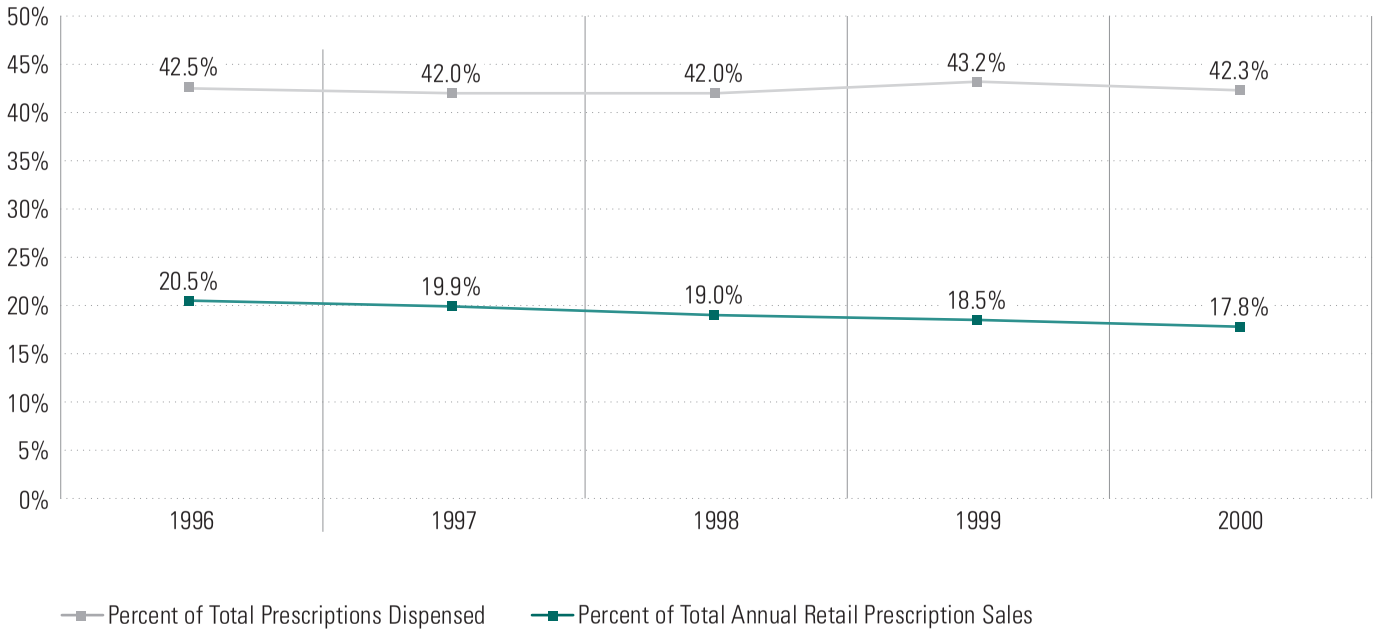
The savings rate range from 34% to 72%, with the average rate being 46%

Savings Projections for San Mateo County Medical Center based on savings rates achieved per benchmark data:

Projections:		Average 46%	Minimum 34%	Maximum 72%
Total OP Drug Expenditures	$ 3,217,000			
Estimated Indigent OP Drug Expenditures	$ 1,072,000			
Projected Gross Savings		$ 493,000	$ 364,000	$ 772,000
Estimated Salaries & Benefits Expense		(138,000)	(138,000)	(138,000)
Projected Net Savings		$ 355,000	$ 226,000	$ 634,000

Generic Drugs as a Percent of Total Prescriptions Dispensed and Percent of Total Annual Retail Prescription Sales in Dollars, 1996–2000

exhibit 22



note
Total Annual Retail Prescription Sales calculated based on total number of prescriptions dispensed annually, brand and generic prescription market shares, and average brand and retail prescription prices.

source
Sonderegger Research Center analysis, based on data from IMS Health, Inc., National Prescription Audit *Plus,* 1996–2000.

Appendix 4

Methods used to achieve higher percentages of generic drugs prescriptions:

- Adopt a step therapy approach where physicians always prescribe generic or older brand name drugs first. Newer brand name medications are used only if the first step in therapy fails and justification for not using the primary choice of drugs is mandatory and clearly indicated on actual prescription.
- Create a restrictive formulary which delays coverage of newer more expensive drugs until several months after they become available.
- Educate physicians on appropriate use of brand name drugs and emphasize the equivalent safety and efficacy of generic equivalents. Management may consider providing financial incentives to contracted physicians in order to increase use of generic and older drugs.
- Use of automated tools (e.g. PDA devices) to provide physicians with easy access to formulary information and the ability to identify alternatives to the most recently released drugs. (A four month pilot program involving 104 physicians conducted by ePocrates and Advance PCS indicated:
  - ✓ 3.9% increase in use of preferred branded formulary products
  - ✓ 1.7% increases in generic products
  - ✓ 4.1 % decrease in the use of non-preferred multi-source products
  - ✓ 1.5% decreases in non-preferred single source branded products.

References:

Henry J. Kaiser Family Foundation, *Prescription Drug Trends, A Chartbook, July 2000.*

The Schneider Institute for Health Policy Brandeis University*, Greater Use of Generics: A Prescription for Drug Cost Savings, January 2002.*

Management Response

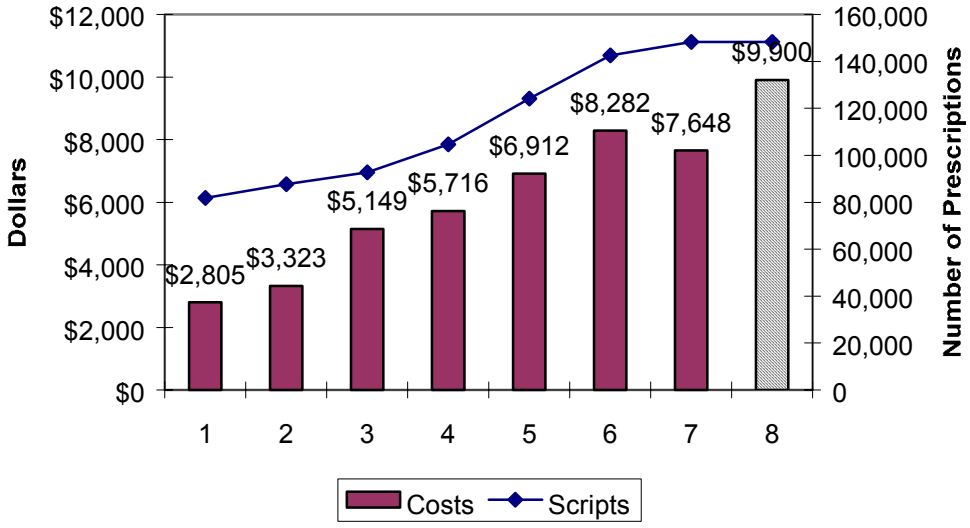
SAN MATEO MEDICAL CENTER

PHARMACY OPERATIONS REVIEW

MANAGEMENT RESPONSE

On behalf of San Mateo Medical Center management, I would like to thank Shirley Mathew and the Audit Division for diligently working with Pharmacy staff and management in the completion of this review. Over the past several years the responsibility of the Pharmacy has extended beyond the walls of the department to include the control of medications wherever they may be dispensed and by whom. Pharmaceutical expenditure inflation continues to increase in double digits every year and our pharmacy activity has nearly doubled in the past five years.

PHARMACY COSTS
FY 1995-96 through FY 2001-02



The Medical Center in collaboration with the Medical Staff through the Pharmacy - Therapeutics Committee have begun to develop and implement a Pharmaceutical Management Plan. The three aspects of the plan are:

1.) Quality Management
    Effective and safe prescription drug therapy to improve patient outcomes
2.) Utilization Management
    Optimizing the quantities and patterns of prescription drug use
3.) Cost Management
    Decrease the cost of drug therapy

The Medical Center Board of Directors approved the implementation of this plan at its January meeting and the hiring of initial staff to implement at its February meeting.
It has been extremely helpful to have Ms. Mathews as a collegial team member developing cost savings and revenue expansion. The Hospital Board of Directors and the Board of Supervisors have already acted on several recommendations, in particular, approving the staffing necessary to implement the recommended quality enhancement and cost saving initiatives.

Recommendations:

1. *We recommend the Medical Center establish in-house pharmacies at the North County and Fair Oaks clinics and take other necessary steps to implement Section 340B Discount program for drug purchases at the two clinics. Since the program's success is contingent on the continuation of San Mateo Health Plan and the existing contractual arrangements with Medi-Cal, any additional staffing should be on a contractual or temporary basis.*

Medical Center management concurs that currently we are not able to benefit from reduced drug costs because indigent patients at satellite clinics go to retail pharmacies through the contracted Pharmacy Benefit Manger (PBM). Establishing pharmacies at the largest clinics such as North County and Fair Oaks could serve the majority of patients seen. State law was changed last year that now allows 340B entities such as the satellite clinics to contract with one outside pharmacy to provide pharmaceuticals to their patients at 340B prices. However, the requirements to do so are cumbersome and possibly labor intensive and to date, the big chains such as Longs and Walgreen's have not wished to participate. The Hospital Board has requested that Medical Center staff explore these options to the fullest before authorizing capital and salary expenditures. We will be reporting to the Board in June on those efforts.

2.The Hospital should utilize Patient Assistance Programs to maximize cost savings relating to indigent outpatient drug expenditures.

The Medical Center agrees that PA' s offer significant savings opportunities. The Board of Directors at its February meeting agreed to support the addition of an Administrative Asst II and a Patient Services Assistant II to the Medical Center salary Ordinance. These positions would implement PAP' s at the 39th Ave location. The salary ordinance amendment was heard and approved by the Board of Supervisors on March 25th and April 3rd. The CMO has granted permission to expedite the hiring process. As of April 7th the Administrative Assistant II position has been filled and we have begun recruitment for the PSA II positions.

3. The Medical Center should establish appropriate processes that maximize savings by purchasing cheaper generic equivalents of brand name drugs wherever possible. Such processes should include adequate monitoring and ensuring compliance with the formulary.

A portion of the Pharmaceutical Management Plan presented to the Board of Directors was to reinvigorate and authorize the Pharmacy - Therapeutics Committee to:

- Review the top 20 high cost drugs and evaluate options for elimination or prior authorization
    - Drug classes have been reviewed by the appropriate medical staff, recommendations made to the P-T Chair and Revisions will be presented at the April P-T Committee Meeting, effective immediately.
- Revamp the new drug approval process to emphasize more scientific-based evaluation of cost-benefit vs. peer advocacy
    - Completed at the March P-T Committee Meeting
- Prioritize and monitor quality initiatives that focus on appropriate drug utilization
- Expand membership on the committee to include finance and quality leaders
    - The Material's Manager and Director of Business Development in addition to increased physician and nursing participation were at the March P-T Committee Meeting.
- Consider a fiscal approval process for high cost new drugs
    - Currently under review
- Analyze and recommend policy regarding co-pays
    - Committee was formed and a recommendation will be made at the April P-T Meeting
- Formalize the separation of Medical Center formulary from the Medi-Cals formulary
- Examine drug company marketing practices at the Medical Center
- Give quarterly reports to Medical Center Leadership

The Medical Executive Committee and the P - T Committee approved this plan in January. Also recommended and approved by the Board of Directors was the hiring of a Formulary Manager to:

- Provide continuous monitoring of the formulary for best pricing, adherence to generics, therapeutic equivalents, drug substitutions including evaluating PBM recommendations
- Evaluate the scientific evidence behind requests for new drug additions
- Evaluate and approve prior authorizations
- Educate and reach out to physicians regarding available drugs and options

This position is included in the salary ordinance went to the Board of Supervisors on March 25 and is expected to be in place by the end of May.

It is also important to point out that under 340B pricing, there are instances where brand name drugs are cheaper than generics.

4. The Medical Center should have a process that verifies the completeness and accuracy of the interface between the pharmacy systems and the patient accounting system to ensure that all pharmaceutical services rendered are properly accounted for and, where applicable, billed to patients, insurance and other payer groups.

While the pharmacy verifies that pharmacy charges are processed through the interface on the front end, transaction errors from the pharmacy side are corrected daily, audit procedures need to

be instituted to insure that the patient accounts are created in the back end. Discussions will be held with ISD and Patient Financial Services to problem solve.

5a. The pharmacy should implement procedures that ensure that material overcharges by vendors are detected and the necessary credits or adjustments are obtained in a timely manner.

5b. The pharmacy should take full advantage of features in the Cardinal Health's system that facilitates purchasing drugs at the lowest cost.

The Medical Center concurs with recommendations 5a and b. Although there is a policy on ordering, currently the Pharmacy Manager does 90% of the ordering and inventory control. This is in addition to other required duties. The Board of Directors and Supervisors have approved the hiring of a Pharmacy Technician to:

- Establish formal procedures for inventory management
- Develop par levels
- Monitor usage vs. ordering
- Develop procedures for the receiving and stocking of drugs
- Monitor 340 B pricing

The Board of Supervisors has approved this position. Hiring is anticipated to be complete by May 1.
The pharmacy is also in the process of obtaining mobile solutions which is a PDA device for ordering, receiving and inventorying drug supplies which will sync up to the primary wholesaler to be processed through the internet.

6a. To minimize the risk of unauthorized acquisition of narcotics, cognizant senior personnel independent of dispensing of narcotics should periodically review Sure Med reports for any unusual activity. An interface between Sure Med and the inpatient pharmacy system can enable automated controls that will minimize this risk.

An interface is still necessary between the inpatient pharmacy system and any automated dispensing system for both narcotic and non-narcotic medications. Nursing, ISD and the Pharmacy are reviewing three (3) possible options for narcotic and non-narcotic dispensing. It is the expectation that a contract will be signed and system implemented by the end of May.

6b. Management should consider doing a feasibility study of purchasing additional cabinets for the dispensing of non-narcotics to inpatients.

Additional cabinets/carts are a part of the aforementioned contract negotiations.

6c.We recommend the Medical Center establish written policies and procedures over inventory controls and management. Such policies and procedures should be made readily available to employees.

See the response to recommendation 5.

7. Access to the cash drawer should be restricted to designated cashiers. Someone other than the cashiers should review daily cash reconciliation.

The Pharmacy Director and Deputy Director of Ancillary Services are creating a Action Committee consisting of appropriate pharmacy, clinic and finance staff to review comparable systems in other settings. One recommendation is the purchase of a cash register, which will establish unique identifiers for each individual who uses the cash register. Another option is to have the Cashier's Office do the daily reconciliation. A resolution to the recommendation is expected by the end of FY03.