

**UNIVERSITY OF CALIFORNIA, DAVIS  
AUDIT AND MANAGEMENT ADVISORY SERVICES**

**UC Davis Health  
Department of Pharmacy  
Audit & Management Advisory Services Project #18-21**

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AMAS Project #18-21**

**MANAGEMENT SUMMARY**

**Background**

As part of the fiscal year (FY) 2018 audit plan, Audit and Management Advisory Services (AMAS) performed a review of the UC Davis Health Department of Pharmacy (Pharmacy).

Pharmacy is an essential part of UC Davis Health. The department ended FY 2017 with \$1.0 billion in gross revenue and \$142.9 million in expenses. Through March of FY 2018, Pharmacy totaled \$770.1 million in gross revenue and \$115.7 million in expenses.

In January 2018, Pharmacy had a total of 280.7 FTE and was recruiting for 15.4 positions, 6 of which were to fill vacancies. The Chief Pharmacist retired in mid-April and an interim chief has been appointed while a search for a permanent replacement is conducted.

In addition to traditional prescription review and medication dispensing services, Pharmacy provides clinical pharmacy services, medication policy development and medication safety, monitoring and refill of the automated medication dispensing (Pyxis) stations, provision of infusion control devices, nutrition support, antibiotic stewardship, and anticoagulation monitoring, among other services. Pharmacy also operates the UC Davis Medical Center's 340B Drug Rebate program, which had net revenue of \$7.3 million in FY 2017 and \$5.9 million through March of FY 2018.

Pharmacy recently created a Business Operations unit to centralize and improve its internal business activities. The unit handles procurement, financial analysis, and employee recruitment functions. At the end of 2017, Pharmacy also had a consultant perform an external assessment of its professional operations. Based on a review of the consultant's report, discussions with Pharmacy management and our preliminary risk assessment, we focused our review on the implementation of Pharmacy's Business Operations unit and its relationship with Pharmacy Inventory Management (IM), which is responsible for receiving, stocking and distributing drug orders.

**Purpose and Scope**

The purpose of this review was to assess the design and implementation of the Department of Pharmacy Business Operations unit, evaluate its internal controls and look for additional opportunities to increase efficiency. In particular, we reviewed the procurement and financial reporting functions. As part of our review of Procurement, we evaluated the delivery of orders and inventory practices of Pharmacy Inventory Management.

In order to accomplish these objectives, we analyzed data on Pharmacy's budget, finances and accounts receivable. We interviewed staff in Pharmacy, and UC Davis Health General Accounting as well as other key UC Davis Health personnel. We also observed the operations of both the Procurement and IM areas and reviewed the consultant's recommendations for improvements in Pharmacy operations.

We reviewed data from all of FY 2017 and FY 2018 through March.

During the audit fieldwork, the California Board of Pharmacy instituted new regulations for the inventory of Schedule II controlled substances. We reviewed Pharmacy processes for compliance with the new regulations and had no observations.

### **Conclusion**

Business Operations staff are committed to improving the administrative processes in the Department of Pharmacy. The new unit has faced immediate challenges – a conversion to a new pharmaceutical wholesaler, widespread drug shortages, and UCD Health’s forthcoming conversion to a new purchasing system. Despite these issues, staff members have continued to provide good customer service. We did conclude that there are opportunities to increase efficiency by improving communication between Business Operations and IM, minimizing interruptions to the Procurement Analyst’s work, and moving all appropriate administrative tasks into Business Operations.

Staff in Inventory Management work diligently to manage the receiving, stocking and distribution of drug orders despite inadequate facilities. Although we did not perform a complete review of IM operations, during our observation we noted several issues worthy of inclusion in this report. Specifically, we concluded there are opportunities to improve IM operations through better control of access to the Stores area, redesigning and increasing the space allotted to receiving and storing deliveries, and labeling drug storage shelves and bins with minimum and maximum par levels.

Additional information is contained in the body of this report.

**Observations, Recommendations, and Management Corrective Actions****Inventory Management**

As part of our review, we visited Pharmacy Stores and observed the processes IM uses to receive, store and distribute drug orders. We further observed a daily inventory check, which IM uses to initiate orders with the wholesaler.

During the observation, we noted the following issues. We did not perform any further work in Inventory Management, and so this cannot be considered a complete review of its practices.

**A. Access to Storeroom Area****Access to the Storeroom area is not well controlled.**

The drug inventory storeroom is behind a locked door. However, Pharmacy staff with badge access frequently pass through as they arrive or leave. The door is also sometimes left open in the early morning during deliveries and courier pickups. On the day of our visit, the door was open and no IM staff member was stationed at the entrance to monitor traffic.

Although there are other ways for staff to reach the Pharmacy work areas, the placement of the storeroom makes it a convenient shortcut. The wholesale delivery (which includes controlled substances) must come in this door, and the delivery person frequently props the door open as he is delivering large pallets and multiple totes.

To effectively manage the drug inventory and comply with policy, Pharmacy must establish safeguards that adequately protect the inventory from theft or other loss. Preventing non-essential personnel from entering the storeroom area will decrease the opportunity for misplacement or unauthorized removal of drugs.

**Recommendations**

1. We recommend that IM keep the door to the storeroom closed and locked, with IM staff members admitting deliveries and couriers.
2. We further recommend that IM take steps to prevent Pharmacy staff from walking through the storeroom.

**Management Corrective Actions**

- a. Inventory Management has removed the door stop from the front door and will keep the door to the storeroom closed and locked, with IM team members admitting deliveries and couriers. No further corrective action is necessary for this recommendation.
- b. By 8/15/2018, Inventory Management will work with Information Technology to disable the storeroom door badge access for all staff but storeroom personnel.

## B. Size of Storeroom

### **Storeroom facility is inadequate for safe and efficient storage of Pharmacy inventory.**

The Pharmacy storeroom is a medium-sized room in the basement of the hospital. The necessary storage shelves and cabinets, refrigerators, freezers, and desks completely fill the space. There is very little floor space to receive and sort deliveries or segregate items for delivery. Overstock and other supplies block some aisles.

As the medical center's service area and patient acuity grows, the amount of pharmaceutical inventory required has also grown, but there has not been a corresponding increase in storeroom space. In addition, many drugs and pharmaceutical supplies are in short supply nationwide, so procurement analysts buy as much as possible when the items are available. Because of the lack of space in the storeroom, IM must store these large deliveries in several remote areas in the hospital, complicating inventory control for these items.

The lack of space in the storeroom makes it more difficult for IM staff to efficiently perform their duties. It can also be hazardous, since staff are forced to move, work around or climb over stacks of boxes and carts to access items for delivery or inventory counts.

### **Recommendations**

1. The Pharmacy consultant noted the limited space in its report, "University of California Davis Medical Center Pharmacy Assessment". Based on the consultant's recommendation, Pharmacy has already begun an effort to declutter, expand and rearrange the storeroom area. We recommend that they continue these efforts and complete a reorganization of the storeroom.

### **Management Corrective Actions**

- a. By 4/15/2019, Inventory Management will install the new storage shelving system and transfer the inventory to the new shelves.
- b. By 9/15/2018, Inventory Management will begin the effort to rearrange and optimize the Pharmacy Stores area.

## C. Inventory Par Levels

### **There are no guidelines for minimum and maximum stock levels of drug inventory.**

IM performs inventory checks every afternoon to initiate an order for the following day's wholesale delivery. A staff member observes the quantity of stock of each item and determines whether more should be ordered. The staff member uses their experience to decide whether to re-order. The storage areas have labels describing what item/medication should be in each spot, but the labels do not list the minimum and maximum amount (par) that should be on hand, nor is that information documented elsewhere.

Inventory Management has not calculated required par levels using purchasing data. Instead, IM relies on its staff to be familiar with how frequently medications are used.

Effective management of inventories will balance the need to have products available with the cost of carrying too much inventory. Without standard par levels, the amount of a drug on hand depends in part on which employee performs the daily inventory check. The failure to document par levels also makes it difficult for new employees to perform inventory checks, since they do not have sufficient historical knowledge.

### **Recommendations**

1. We recommend that Inventory Management develop a method to display minimum and maximum par levels for each item to assist with inventory checks and ordering.

### **Management Corrective Action**

- a. By 1/15/2019, IM and purchasing teams will collaboratively identify and implement KANBAN, a par level system, to ensure minimum and maximum par levels are maintained.

## **Business Operations**

### **D. Coordination with Inventory Management**

**Communication between Procurement and Inventory Management could be improved.**

The duties of Procurement, which orders drugs, and IM, which receives and distributes drugs, are closely intertwined. The relationship requires that the two units are in frequent communication since issues and decisions in one unit will often affect the other. Currently, both units complain that communication is difficult, causing delays in filling orders and solving problems.

The procurement analysts used to be housed in the basement near the IM staff and Pharmacy Stores. It was easy for them to find and consult one another. When Procurement joined the Business Operations unit, the analysts moved upstairs into the Pharmacy Administration area. The separation has reduced their ability to communicate face to face when issues arise.

Procurement and IM recently instituted daily “huddles” where the two meet to discuss and resolve problems. However, some short-term issues require a quicker response. Without the ability to communicate quickly, the units must now delay decisions or spend time tracking down the correct person, which impedes efficient decision making.

### **Recommendations**

1. We recommend that Procurement and Inventory Management implement a standard method of communication between the two units for issues that cannot wait for the daily huddle.

**Management Corrective Action**

- a. Procurement and IM have decided that they will communicate via Vocera and then follow up with an email for issues that cannot wait until their daily huddle. No further corrective action is necessary for this recommendation.

**E. Interruptions by Customers****Procurement Analysts are frequently interrupted by questions and requests about drug orders.**

The procurement analysts have deadlines each day by which they must complete processing orders to ensure timely delivery of the drugs. The analysts work conscientiously to meet the deadlines. However, their work is frequently disrupted by phone calls, emails, texts, Vocera calls and Instant Messages from clinics, inpatient units or the satellite pharmacies about drug orders.

Procurement prides itself on providing excellent customer service to the areas it serves, and the analysts will pause their processing to take orders or spend time researching a question. Consequently, many of their customers find it easier to contact Procurement than to enter an order or investigate a problem themselves.

The interruptions come in a variety of forms, and delay the analysts in the performance of their duties. On the day we observed, it took 25 minutes for the analyst to process four orders while also responding to phone calls and other types of messages. The interruptions significantly impact the ability of the procurement analysts to process all their orders by the daily cutoff times.

**Recommendations**

1. We recommend that Procurement establish one method of contact for questions and direct orders from its customers and encourage the use of only that method as the quickest way to get a response.

**Management Corrective Action**

- a. By 2/15/2019, the Procurement team will develop a Vocera and phone coverage matrix to ensure each analyst has daily uninterrupted time for ordering, training and process improvement. Matrix will be posted to business office page and updated monthly.

## F. Business Operations Responsibilities

### **There is no comprehensive plan to consolidate administrative duties under Business Operations.**

Currently, administrative responsibilities are dispersed throughout Pharmacy, since they have been taken on by different units and personnel on an as-needed basis, with no previous effort to coordinate the assignments. There is no documentation of what administrative functions each unit performs. Business Operations originally took on executive support, procurement and revenue cycle management. Plans are for additional duties to be included at a later date. However, the planning efforts have not included a survey to determine all the areas and personnel performing administrative tasks.

Business Operations took over the procurement team just as the UC drug wholesaler contract was re-bid and awarded to a new vendor. UC Davis led the effort, overseeing the implementation of a new purchasing platform at all UC pharmacies. Managing the conversion has been very time-consuming and has temporarily prevented further planning for the best composition of the Business Operations unit.

The Business Operations unit was formed to centralize administrative functions, take advantage of staff expertise and improve efficiency. Without a complete list of all administrative duties and all areas in Pharmacy that perform some of them, it may not be possible to gain the efficiencies expected by centralizing the functions.

### **Recommendations**

1. We recommend that Pharmacy develop an understanding of the administrative duties being performed throughout the Pharmacy operations, and determine how best to assign administrative duties to capitalize on the expertise of its personnel and maximize efficiency.

### **Management Corrective Actions**

- a. By 2/15/2019, Business Operations in consultation with Pharmacy management will determine all administrative functions performed in Pharmacy and the personnel responsible.
- b. By 2/15/2019, Business Operations in consultation with Pharmacy management will decide which duties are most efficiently handled by Business Operations, and create a plan to move the responsibilities.

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