UNIVERSITY OF CALIFORNIA, DAVIS
INTERNAL AUDIT SERVICES

University of California, Davis Health System
Delegated Purchasing – Perioperative Services
Internal Audit Services Project #12-09

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MANAGEMENT SUMMARY

BACKGROUND

Perioperative Services (OR) is one of ten departments within UCD Health System (UCDHS) that have been delegated purchasing authority to generate their own purchase orders through Eclipsys, UCDHS's material management system. The UCD Medical Center is a member of the University Health System Consortium (UHC), a consortium of academic medical centers. The UHC members employ Novation, a supply contracting company, to negotiate contracts for implants and other supplies. UCDHS has a prime vendor distribution program in place with Professional Hospital Supply (PHS) as its source for surgical supplies.

The OR initiates three types of supply purchases:[1]

- OR general supplies, including implants and instruments purchased directly from the vendors, including PHS, using purchase orders in Eclipsys. These purchases totaled $38 million in calendar year 2011.
- Exchange Carts, which are supplied and replenished nightly by PHS under a pricing agreement without individual purchase orders in Eclipsys. Total expenditures for exchange cart items were $2.6 million in calendar year 2011.
- Bulk supply purchases of highly consumable products such as gowns, gloves, and specialty packs. These orders are placed directly through an electronic data interface by an on-site PHS employee outside of the Eclipsys system. Total bulk supply expenditures were $1.3 million for calendar year 2011.

Total supply expenditures for the OR from January 2011 through December 2011 were $43.2 million, of which $42.9 million (99%) was spent in six major categories. OR supply expense has grown steadily over the last five years from $30.9 million in 2007 to $43.2 million in 2011.[2]

Sum of Expenditures			Calendar Year						
Major Supplies	Object	Object Name	2007	2008	2009	2010	2011	Grand Total	% of Total
	8031	UCDMC - PROSTHESIS & PACEMAKER	17,994,167	22,827,954	23,494,816	23,707,118	25,395,949	113,420,004	59%
	8041	UCDMC OTHER MEDICAL SUPPLIES	5,632,968	6,405,817	5,954,549	6,111,888	5,916,125	30,021,346	16%
	8034	UCDMC - SURGICAL SUPPLIES - GENERAL	3,821,351	6,181,976	6,136,909	6,512,461	6,771,347	29,424,045	15%
	8048	UCDMC INSTR & MINOR MED EQUIP	991,761	1,162,474	1,189,572	2,145,137	2,577,822	8,066,767	4%
	8033	UCDMC - SURGICAL PACKS & SHEETS	1,254,256	1,263,562	1,268,521	1,253,634	1,475,695	6,515,667	3%
	8032	UCDMC - SUTURES & SURGICAL NEEDLES	804,003	814,895	797,982	690,567	751,575	3,859,023	2%
Major Supplies Total			30,498,506	38,656,677	38,842,350	40,420,805	42,888,514	191,306,852	99%
Other Supplies			355,626	341,984	338,059	354,195	322,453	1,712,317	1%
Grand Total			30,854,132	38,998,661	39,180,408	40,775,000	43,210,967	193,019,169	100%

Expenditures rose 10% between 2009 and 2011; whereas the number of surgeries rose less than 1%, and the number of surgical hours rose 1.9%. Thus, the supply cost per surgery rose 35% between 2007 and 2011, and the cost per surgical hour increased 10% between 2008 and 2011.[3]

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[1] Source: UCDHS Purchasing Department
[2] Source: DaFIS
[3] Source: Perioperative Services

	2007	2008	2009	2010	2011
Total Surgery Cases	20,742	21,595	22,667	21,482	21,602
Total Surgery Hours	N/A	54,625	56,375	54,018	55,054
Average Cost of Major Supplies per Surgery Case	$1,470.37	$1,790.08	$1,713.61	$1,881.61	$1,985.40
Average Cost of Major Supplies per Surgery Hour		$707.68	$689.00	$748.29	$779.03

In 2011, OR began a joint effort with the UCDHS Purchasing Department to look for savings in supply expense. The group identified 28 opportunities for savings. The initiatives include such items as reducing waste by using shorter tape rolls, seeking out patronage dividends and rebates, and standardizing contracts for orthopedic and spine implants with the support of the physicians. As of June 5, 2012, the committee had successfully closed 10 of the identified opportunities for a total savings of $3.5 million. Work on the other 18 initiatives is ongoing.

PURPOSE AND SCOPE

We reviewed delegated purchasing activities by OR as part of our Fiscal Year 2012 audit plan. The purpose of the audit was to evaluate compliance with Business and Finance Bulletin BUS 43, *Materiel Management,* and to identify opportunities to improve the economy and efficiency of the operation. We reviewed purchasing transactions for the period January 2011 through December 2011. We assessed the processes OR purchasing staff use to add a new vendor and for ordering, receiving and approving purchases. We interviewed OR, Purchasing Department and Accounts Payable Department personnel and reviewed relevant policies. We also selected a sample of transactions and tested them for accuracy and compliance with policy. Finally, we examined the reports and procedures OR and the Purchasing Department use to monitor supply purchases and budget for OR.

CONCLUSION

We concluded that the OR delegated purchasing activities were generally in compliance with BUS 43. We found no instances where OR purchased items outside their delegation of authority. However, we also identified opportunities for improving the segregation of duties and ensuring correct product pricing.

Our observations and recommendations are presented in the body of this report along with corresponding management corrective actions.

OBSERVATIONS, RECOMMENDATIONS, AND MANAGEMENT CORRECTIVE ACTIONS

1. SEPARATION OF DUTIES

The process for ordering bulk supply items should be strengthened.

An inadequate separation of duties exists in the process for purchasing bulk supplies. A PHS employee is purchasing bulk OR and hospital supplies directly through an electronic interface with PHS. There is no review or approval of the orders before they are placed. When the order arrives, the packing slips are verified by the PHS employee and forwarded to the Accounts Payable Department for payment. Accounts Payable believed the verification of receipt on the packing slip included verification of the prices. There is no purchase order in Eclipsys to match, so Accounts Payable pays the PHS invoice as presented.

UCD PPM 330-11, *Departmental Financial Administrative Controls and Separation of Duties,* requires departmental financial administrative duties to be separated so that one person's work routinely serves as a complementary check on another's work, and no one person has complete control of a financial transaction. Additionally, UCD Policy and Procedure Manual 330-40, *Disbursement Procedures*, states that before a vendor payment check is issued, the department shall verify the goods have been received and the price on the invoice is correct. During the payment process, Accounts Payable must verify the invoice on either a pre-audit or post-audit sample basis by comparing it to the original procurement document.

OR purchased $1.3 million dollars of bulk supplies in 2011 that were not independently approved, and neither the item prices nor the receipt of the items were sufficiently verified. Failure to properly separate the duties in a purchasing function and to perform price verifications increases the risk of waste, fraud and abuse in the process.

Recommendations

The OR should collaborate with the UCDHS Distribution Department to ensure a proper separation in the duties of ordering, approving, receiving and verifying prices for bulk item purchases.

Management Corrective Actions

The Distribution Department has assumed responsibility for replenishing OR Par Stock supplies via Eclipsys Order Books. The Purchasing Department will place Purchase Orders for the needed supplies, and Distribution staff will deliver supplies to the OR. Eclipsys is the tool that will be used to ensure separation of duties remains in place.

2. OVERSIGHT AND MONITORING

Oversight of prices on purchase orders could be strengthened.

The OR delegated buyer can override item prices listed in Eclipsys when entering a purchase order. Eclipsys does not record data on overrides, nor is any secondary review or approval required to ensure the propriety of the transaction.

Items which have been cataloged in Eclipsys have a price associated with them. However, these prices can be outdated or incorrect. In these cases, the delegated buyer has the ability to override Eclipsys prices when entering a purchase order. If the buyer enters a price that is higher than the Eclipsys price, a warning message will alert the buyer. There is no secondary approval required for the price override and information on prices that have been overridden is not captured by the system.

The UC Davis Administrative Responsibilities Handbook requires units to manage resource in an efficient and cost effective manner and ensure that financial transactions are correct. Section d-224-17 of the University of California Accounting Manual requires departments to establish and maintain internal controls designed to deter and detect any potential misuse of resources.

We reviewed the purchase of 2,300 different items and determined that the buyer had overridden the Eclipsys price for 308 (15%) of the transactions. Our review did not disclose any improper payments. However, the current process does not provide assurance that all price overrides are necessary and would not detect erroneous or deliberate mispricing.

Recommendations

The Purchasing Department should implement a process for reviewing purchases where Eclipsys prices are changed to validate the propriety of the purchases and analyze for trends or significant variances.

> **Management Corrective Actions**
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> The Purchasing Department will perform a monthly review to compare master item file prices with contract file prices and correct any errors. The first review will be completed by January 15, 2013.
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> The delegated buyer(s) will notify Purchasing when overriding a price after they have validated a mismatch in the contract price in the Master Item File. Process to begin on January 15, 2013. This will be done via a weekly spreadsheet in order to document pricing overrides and follow up action needed by Purchasing.

3. VERIFICATION OF PRICING

Process to verify implant prices could be strengthened.

The OR nurse auditors were using price lists provided by vendor representatives, not UCDHS pricing agreements, to verify the invoiced cost for implants. Implant purchases totaled over $25 million, representing 59% of total OR supply expenses in 2011. A surgeon may not know which particular size or type of implant the patient needs until the procedure is in progress. A vendor representative brings a selection of implants to the OR and submits an invoice for any implants used or wasted during the procedure. Nurse auditors are responsible for verifying the implants used with the patient's electronic medical record and for validating the implant prices listed on the invoice. The nurses receive notification of pricing agreements from Purchasing Department buyers via e-mail. However, there is no procedure to ensure all new or updated vendor pricing agreements are consistently sent to the nurse auditors. Not all implants and related products are listed in Eclipsys, and Eclipsys data may not be current. As a result, the nurses may only have prices supplied by the vendor representatives to verify the invoiced prices.

Section A-000-7 of the University of California Accounting Manual states that guidelines require substantiating documentation for direct charges (how these invoices are paid) to be sufficient to safeguard against improper or inappropriate expenditure of University funds. Verifying pricing by consulting unapproved price lists provided by vendor representatives fails this safeguard. Nurse Auditors may not detect prices higher than those in the pricing agreement, resulting in a loss to the Medical Center.

Recommendations

Nurse Auditors should use approved pricing agreements to verify implant costs instead of using the price given by the vendor representative.

Management Corrective Actions

The Purchasing Department will provide training to the Purchasing staff on procedures to ensure that approved pricing agreements are being forwarded to the OR by January 15, 2013. All pricing updates will be sent via e-mail to ensure delivery and whenever possible will be sent in an Excel file.

The OR will ensure that nurse auditors have access to contract pricing agreements by January 15, 2013, as a reference to pricing for items not cataloged or subject to an approved agreement. The OR will establish a folder system in the Perioperative Division shared drive for access by the materials staff, nurse auditors and others.

4. CONFIRMATION OF ELIGIBILITY AND PRICE OF PURCHASES

Accuracy and completeness of Eclipsys records could be improved.

Information in Eclipsys for cataloged items can be outdated and/or incorrect. Additionally, a high percentage of OR purchases are products not cataloged in Eclipsys. For these items, no information on whether the item has been approved by the Value Analysis Committee or the correct contract price is available in Eclipsys.

In calendar year 2011 the delegated OR buyer purchased more than 133,000 items for a total cost of almost $39 million. Of these, 39,000 items with a cost of almost $16 million did not have a catalog code. This is 29% by number of items and 41% by cost of the total for all purchases. No information is available on the number of items whose records were erroneous in 2011. However, in a sample of 2,300 purchases from 2012, the OR delegated buyer corrected Eclipsys prices on purchase orders 15% of the time.

Eclipsys only contains information about products that have been added through the cataloging process. When the Purchasing Department approves a new pricing agreement, not all covered products are automatically cataloged. OR must still request a catalog code for an individual product because there are too many products in each agreement for them all to be routinely coded. Moreover, not all items get individual approval and catalog codes. The approval authority, the Value Analysis Committee, only reviews and approves entire systems (i.e. implant systems), not individual items.

The cataloging of items in Eclipsys and changes to prices or contract information is done by personnel in the Purchasing Department. Eclipsys only allows one price for an item, so price changes cannot be input until the day they take effect. Depending on work load, the process to update Eclipsys for new agreements, pricing changes and requests from the OR can vary from one day to months. During that time, information in Eclipsys will be incorrect.

According to the OR Delegated Purchasing Guidelines:

- Cal coded instruments are exempt from the $5,000 limit on delegated purchasing authority.
- Items that are not Cal coded, but are tied implants on a contract, are also on the contract and are exempt from the $5,000 limit.
- Items that are not Cal coded, and not tied to implants on a contract should not be purchased, since these are unapproved products.
- Items that are not Cal coded need to be evaluated to determine whether they compete with approved products. Items that compete with approved products should not be purchased regardless of the $5,000 delegated authority limit.
- New items that are directly patient-care related are not to be purchased until reviewed and approved by the Value Analysis Committee.
- Non-Cal coded items covered under a contract are exempt from the $5,000 delegated purchasing authority limit.

The UC Davis Administrative Responsibilities Handbook requires each department to ensure that all financial and personnel transactions are recorded accurately and in a timely manner. Transactions should reflect accurately the actual value or information involved, and contain sufficient detail to support post authorization review and audit.

The current cataloging process leaves OR relying on vendors instead of Eclipsys for product price and eligibility information, increasing the risk of paying for an unauthorized item or an improper amount. The purchase of a large number of un-cataloged products decreases the ability of the Purchasing Department to monitor procurement and look for savings opportunities.

Recommendations

The Purchasing Department and OR should implement a process to ensure that OR has current contract and pricing data for all purchases and new products are cataloged in Eclipsys promptly.

Management Corrective Actions

The Purchasing Department will provide training to the buyers on procedures to ensure that approved pricing agreements are being forwarded via e-mail to the OR by January 15, 2013.

The OR will begin submitting Cal code catalog request information to the Purchasing Department by January 115, 2013. Purchasing will provide a PACMAN report to the OR on a biweekly basis beginning on January 15, 2013.

5. INCONSISTENCY IN PRICE DATA

Process of updating product prices in Eclipsys could be improved.

Item prices listed in the vendor catalog section of Eclipsys can be different than prices listed in the contract records of Eclipsys. We sampled items from the list of bulk items purchased in 2011. Item prices are connected with both the contract number in Eclipsys and listed in the Eclipsys vendor catalog. However, prices tied to an item number in each of the two places can be different.

Additionally, the current Eclipsys prices of some of the products in our sample did not match the prices paid on the invoices. These purchases were reviewed and the prices confirmed when purchased. Since Eclipsys does not maintain a price history, an after the fact review may not be accurate. The records show a "last updated" date, which could be used to determine which price is correct, but it also may not be accurate, contingent on how the price was updated in Eclipsys.

The Eclipsys system allows these sections to be updated separately. Records are not linked so updating one does not change the other, allowing prices to vary in the two places. Updating the contract price also does not advance the last updated date in the vendor catalog.

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The price verification process for invoices relies on Eclipsys data. Inconsistent records in Eclipsys could result in not detecting invoices with outdated information, errors or mispricing.

Recommendations

The Purchasing Department should implement a process to ensure Eclipsys product prices are equivalent throughout the system.

Management Corrective Actions

The Purchasing Department will compare the item prices contained in item records and contract tables for conformity on a monthly basis. Erroneous entries will be referred to staff responsible for contact and item record updates for corrective action by January 15, 2013.

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