

**Joint Legislative Committee on Performance
Evaluation and Expenditure Review (PEER)**

Report to
the Mississippi Legislature



An Analysis of Selected Procurement Decisions of the University of Mississippi Medical Center

PEER reviewed the University of Mississippi Medical Center's use of its *group purchasing organization* (GPO) agreement with University HealthSystem Consortium/Novation (UHC). A health care GPO contracts with health care product suppliers to obtain set prices based on an expected level of commitment and members (i. e., health care providers) purchase from the suppliers for these contracted prices instead of negotiating prices individually.

Because professional literature on health care GPOs shows a lack of consensus on their effectiveness, PEER believes that the ultimate decision of whether it is good public policy for UMMC to participate in GPOs depends on the quality of the medical center's future contract provisions and performance measures. Under UMMC's current contract with UHC, these accountability elements are not adequate for effective decisionmaking. UMMC's accountability system does not contain the elements needed to help ensure that UHC secures the best products at the best prices and avoids anti-competitive practices because UMMC does not have measures in place to compare GPO prices and market prices. Also, UMMC and UHC have not complied with the contract provision regarding the establishment of performance measures.

PEER also reviewed how UMMC made the decision to procure its building automatic controls systems. A *building automatic controls system* is a computerized, intelligent network of electronic devices designed to monitor and control a building's mechanical and lighting systems. While UMMC did not violate any law or regulation regarding procurement of these systems in the circumstances PEER reviewed, it could improve its procurement practices for such systems to allow greater competition among vendors. For medical and research facilities, UMMC did not conduct a formal cost-benefit study or medical safety risk assessment prior to choosing to remain with a particular vendor as the sole-source provider and thus did not assure that it is not potentially paying more than necessary. For non-medical, non-research facilities (e. g., academic and administrative buildings), UMMC sought quotes from two vendors (as required by regulations), even though two additional vendors had been attempting to compete for UMMC's business. Thus UMMC did not take advantage of an opportunity to assure that it obtained the lowest and best price.

August 16, 2011

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PEER Committee
Post Office Box 1204
Jackson, MS 39215-1204

(Tel.) 601-359-1226
(Fax) 601-359-1420
(Website) <http://www.peer.state.ms.us>

The Mississippi Legislature

Joint Committee on Performance Evaluation and Expenditure Review

PEER Committee

SENATORS
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Vice Chair
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GREG WARD

TELEPHONE:
(601) 359-1226
FAX:
(601) 359-1420

Post Office Box 1204
Jackson, Mississippi 39215-1204
Max K. Arinder, Ph. D.
Executive Director
www.peer.state.ms.us

OFFICES:
Woolfolk Building, Suite 301-A
501 North West Street
Jackson, Mississippi 39201

August 16, 2011

Honorable Haley Barbour, Governor
Honorable Phil Bryant, Lieutenant Governor
Honorable Billy McCoy, Speaker of the House
Members of the Mississippi State Legislature

On August 16, 2011, the PEER Committee authorized release of the report entitled **An Analysis of Selected Procurement Decisions of the University of Mississippi Medical Center.**

A handwritten signature in cursive script that reads "Harvey Moss". The signature is written in black ink and is positioned above a horizontal line.

Representative Harvey Moss, Chair

This report does not recommend increased funding or additional staff.

Table of Contents

Letter of Transmittal	i
Executive Summary	v
Introduction	1
Authority	1
Problem Statement.....	1
Scope and Purpose.....	2
Method	2
Background	4
What is a health care group purchasing organization?.....	4
By what legal authority does UMMC participate in health care GPOS?.....	5
Why does UMMC use a health care GPO?.....	6
To what extent does UMMC participate in the UHC GPO?.....	7
UMMC's Use of Health Care Group Purchasing Organizations	9
Is it good public policy for UMMC to participate in health care group purchasing organizations such as UHC?.....	9
Has UMMC taken steps to assure the price benefits of its participation in the UHC GPO?.....	16
UMMC's Procurement of Building Automatic Controls Systems	20
Did UMMC comply with legal or regulatory requirements and best practices for its procurement of building automatic controls systems?	20
Recommendations	31
Appendix A: Supply Chain Services Provided by UHC Under the Current Group Purchasing Agreement	35
Appendix B: UMMC's Expenditures under the Group Purchasing Agreement with UHC, By Product Segment, for CY 2009 and CY 2010.....	38
Appendix C: Bibliography on the Effectiveness of Health Care Group Purchasing Organizations.....	40
Appendix D: Department of Finance and Administration's Energy Management Systems/Mechanical Controls Procurement Policy	43
Agency Response	47

An Analysis of Selected Procurement Decisions of the University of Mississippi Medical Center

Executive Summary

Introduction

Problem Statement

In 2009 and 2010, complaints arose about the University of Mississippi Medical Center's procurement of building automatic controls systems.¹ The complainants believed that because the medical center was a member of the University HealthSystem Consortium (UHC)/Novation² group purchasing organization (GPO), some bidders were unfairly excluded from competing for the medical center's building automatic controls systems equipment and installation services. Also, the complainants were concerned that items that the University of Mississippi Medical Center (UMMC) purchased through the UHC GPO were more expensive than they would have been if not purchased through a GPO.

To address the complaints, PEER commenced a review of UMMC's procurement of building automatic controls systems through the UHC GPO. However, PEER subsequently determined that UMMC's use of the GPO agreement was not a significant factor in its building automatic controls purchase decision.

Therefore, PEER addressed the larger issue of whether UMMC's participation in the UHC GPO has enabled it to procure quality products at a lower price in an efficient manner. PEER also sought to determine whether UMMC complied with legal or regulatory requirements and best practices for its procurement of building automatic controls systems.

¹ A *building automatic controls system* is a computerized, intelligent network of electronic devices designed to monitor and control the mechanical and lighting systems in a building. Building automatic controls system functions include keeping the building climate within a specified range, providing lighting based on an occupancy schedule, monitoring system performance and device failures, and providing e-mail and/or text notifications to building engineering staff.

² *University Healthsystem Consortium/Novation* is a group purchasing organization that includes capital equipment and installation services as well as surgical/medical supplies.

Scope and Purpose

Concerning UMMC's use of the UHC GPO, PEER addressed the following question:

- Is it good public policy for UMMC to participate in health care group purchasing organizations such as UHC?
- Has UMMC taken steps to assure the price benefits of its participation in the UHC GPO?

UMMC participates in at least one other health care GPO (Med Assets), but only the medical center's agreement with the UHC GPO was within the scope of this review.

Concerning complaints regarding UMMC's procurement of building automatic controls systems, PEER addressed the following question:

- Did UMMC comply with legal or regulatory requirements and best practices for its procurement of building automatic controls systems?

Background

A health care group purchasing organization contracts with health care product suppliers to obtain set pricing for products based on an expected level of commitment and in return, members are able to purchase from the suppliers for the GPO's contracted prices instead of having to negotiate the prices individually. In 1996, the Legislature gave UMMC the legal authority to enter into group purchasing agreements.

UMMC chose to enter into a group purchasing organization in order to gain additional buying power as well as a way to simplify the procurement process. UMMC purchases most of its hospitals' and clinics' commodity items through UHC, but does not utilize the GPO to purchase commodities for its academic and research programs.

In CY 2010, UMMC spent approximately \$126 million for commodities purchased through the UHC GPO. For that year, UMMC's expenditures for commodities through the UHC GPO represented 90% of UMMC hospitals' and clinics' total commodities expenditures.

UMMC's Use of Health Care Group Purchasing Organizations

Is it good public policy for UMMC to participate in health care group purchasing organizations such as UHC?

PEER's review of the literature from the first decade of the 2000s on the performance of group purchasing organizations yields a mixed bag of research and a significant lack of consensus on the effectiveness of health care group purchasing organizations. Thus PEER believes that the ultimate decision of whether it is good public policy for UMMC to continue to participate in GPOs will depend chiefly on the quality of the medical center's future contract provisions and performance measures. Under the current contract, these accountability elements are not adequate for effective decisionmaking.

Has UMMC taken steps to assure the price benefits of its participation in the UHC GPO?

UMMC's accountability system does not contain the elements needed to help ensure that UHC secures the best products at the best prices and avoids anti-competitive practices because UMMC does not have measures in place to examine the comparative differences in GPO prices versus market prices. Also, UMMC and UHC have not complied with the contract provision regarding the establishment of performance measures.

UMMC's Procurement of Building Automatic Controls Systems

Did UMMC comply with legal or regulatory requirements and best practices for its procurement of building automatic controls systems?

While UMMC projects funded through appropriations or bonds must comply with Department of Finance and Administration (DFA) regulations, projects utilizing self-generated funds may be contracted without significant control by DFA.

While UMMC did not violate any law or regulation regarding procurement of building automatic controls systems in the circumstances PEER reviewed, UMMC could improve its management of the process for procuring such systems to allow for greater competition among vendors.

UMMC did not conduct a formal cost-benefit study or medical safety risk assessment prior to making its decision to remain with Johnson Controls as the sole-source provider for building automatic controls systems

for its medical and research facilities.³ As a result, UMMC did not assure that it did not restrict competition among potential vendors and thus could potentially be paying more than is necessary for its building automatic controls systems.

UMMC sought quotes from two vendors (as required by DFA) for building automatic controls systems for one of its non-medical, non-research facilities,⁴ even though two additional controls vendors have been attempting to compete for UMMC's business. Therefore, although UMMC followed DFA's guidelines for procuring the systems, UMMC did not take advantage of an opportunity to assure that it obtained the lowest and best price.

Recommendations

UMMC's Use of the UHC GPO

1. UMMC should identify and consider all reasonable alternatives in procuring products and managing its supply chain. UMMC's decision to move forward should be based on a cost-benefit analysis that fully assesses and documents UMMC's supply chain needs and the costs and benefits of each proposed supply chain solution. The cost-benefit analysis should include, but not be limited to, assessment of each of the following:
 - the direct pricing of purchases associated with each procurement option (e. g., open competitive solicitation to obtain pricing for a sample of products UMMC typically purchases under the GPO to compare to GPO pricing);
 - the costs of contracting associated with each procurement option, including the staffing costs associated with each procurement option;
 - the beginning-to-end procurement time associated with each procurement option

³ The *medical and research facilities* would include the hospitals and any facility in which sensitive research is conducted (e. g., sensitive to temperature or air pressure). UMMC believes that medical and research facilities could face a risk in the event of a breakdown in the building automatic controls system infrastructure.

⁴ The *non-medical, non-research facilities* would include academic buildings (classrooms, professors' offices, and non-sensitive research), administrative buildings, student housing, student union, and the Ronald McDonald House.

and the effects the time differences may have on the supply chain; and,

- the oversight costs associated with each procurement option.
2. If UMMC chooses to stay in a GPO, UMMC should consider taking the following steps to increase its oversight of the GPO's performance.
- UMMC should amend its group purchasing agreement with UHC to include a net costs measurement figure (potentially subject to inflation) for all products purchased under the GPO as opposed to, or in addition to, the cost savings figure that UMMC currently uses to track product savings for products in which savings occur.
 - UMMC should review the prices of products purchased under the GPO to assess where GPO prices were held steady year-over-year, where product prices increased at the rate of inflation, and where product prices increased at a rate above the rate of inflation.
 - UMMC should establish a system to ensure that its group purchasing agreement is successful in delivering lower prices than the market in which UMMC would compete. Such a system would monitor the GPO's performance by comparing the GPO prices for a sample of products purchased through the GPO to market prices available outside the GPO (either via self-contracting, market basket study, or some other means) in order to provide adequate oversight. When comparing product prices, UMMC should compare the net price for products (rather than just unit prices) in order to account accurately for all applicable manufacturer rebates, GPO patronage dividends, or other available discounts that could be tied to the purchase of the product.
 - Using the above-referenced sample pricing study as a guideline, UMMC should consider increased opportunities to purchase outside the GPO when financially beneficial.
 - As a condition of its GPO contracts, UMMC should require that its GPOs provide it with annual independent audits to ensure that the amount the GPO retains to cover its costs is reasonable and thus that GPO members are

maximizing their patronage dividend returns.

- In assessing the value of continued participation in a GPO, UMMC should calculate the value of the GPO's value-added services (net any costs associated with the provision of such services) and the cost avoidance potential resulting from UMMC not having to bid all the products.
- UMMC and UHC should comply with provisions of the contract that require establishing measures of success and benchmarks to track the GPO's progress of goals and objectives. Performance measures (beyond the financial incentives addressed in the contract), including supply chain services, should be developed to measure the success of the GPO under the contract.

For example, under the Supplier Diversity Program and Local and Small Business Commitment, a performance measure might be "UHC will work with UMMC to add X number of women, minority, small business, and veteran-owned business to UMMC's list of customized contracts for each product segment in which UMMC procures products under the GPO." For product standardization, a performance measure might be "UHC will work with UMMC and its clinical and supply chain staff to increase product standardization by reducing product variation within non-clinically preferred categories by X%."

UMMC's Procurement of Building Automatic Controls Systems

3. UMMC should consider all reasonable alternatives in procuring, operating, and overseeing its building automatic controls system environment for its medical and research facilities. For example, in order to perform such an assessment, UMMC should talk to potential providers about the options available (including sole source, dual source, or multi-source) in terms of supplying the hospital with a technically feasible, cost-effective, secure building automated controls system that meets UMMC's needs in both the short term and the long term.

Given the capabilities of the potential options, UMMC should conduct a documented risk assessment to determine whether there is an

increased risk to patient care by maintaining a multiple-source system. If an increased risk to patient care exists in maintaining a multiple-source system, UMMC should consider whether the increased risk could be adequately addressed through a back-up plan.

UMMC should then conduct a cost-benefit analysis to assess fully the costs associated with maintaining a sole-source system (including the effects of sole-source pricing, the costs of maintaining multiple providers' parts, and the overlap of such systems) versus maintaining a multiple-source system.

4. While UMMC may only be required to solicit proposals from no less than two contractors for its non-medical and non-research facilities, UMMC should attempt to obtain building automatic controls systems for the best value, including making an effort to seek proposals from all bidders that meet documented, justified bidding qualifications and which have sought an opportunity to compete to provide UMMC with products or services.

For More Information or Clarification, Contact:

PEER Committee
P.O. Box 1204
Jackson, MS 39215-1204
(601) 359-1226
<http://www.peer.state.ms.us>

Representative Harvey Moss, Chair
Corinth, MS 662-287-4689

Senator Sampson Jackson, Vice Chair
Preston, MS (601) 677-2305

Senator Terry Brown, Secretary
Columbus, MS (662) 329-3399

An Analysis of Selected Procurement Decisions of the University of Mississippi Medical Center

Introduction

Authority

The PEER Committee reviewed the University of Mississippi Medical Center's use of one of its health care group purchasing organization (GPO) agreements.¹ PEER also reviewed how the medical center made the decision to procure its building automatic controls systems for the hospital/research setting solely through Johnson Controls and whether such a decision was justified.

PEER conducted the review pursuant to the authority granted by MISS. CODE ANN. Section 5-3-57 et seq. (1972). The Committee acted in accordance with the MISS. CODE ANN. Section 5-3-51 et seq.

Problem Statement

In 2009 and 2010, complaints arose about the University of Mississippi Medical Center's procurement of building automatic controls systems. The complainants believed that because the medical center was a member of the University HealthSystem Consortium (UHC)/Novation² group purchasing organization, some bidders were unfairly excluded from competing for the medical center's building automatic controls systems equipment and installation services. Also, the complainants were concerned that items that the University of Mississippi Medical Center (UMMC) purchased through the UHC GPO were more expensive than they would have been if not purchased through a GPO.

¹ A *group purchasing organization* (GPO) contracts with suppliers to obtain set pricing for products based on an expected level of commitment and, in return, members are able to purchase from the suppliers for the GPO's contracted prices instead of having to negotiate prices individually.

² *University Healthsystem Consortium/Novation* is a group purchasing organization that includes capital equipment and installation services as well as surgical/medical supplies.

To address the complaints, PEER commenced a review of UMMC's procurement of building automatic controls systems through the UHC GPO. However, PEER subsequently determined that UMMC's use of the GPO agreement was not a significant factor in its building automatic controls purchase decision.

Therefore, PEER addressed the larger issue of whether UMMC's participation in the UHC GPO has enabled it to procure quality products at a lower price in an efficient manner. PEER also sought to determine whether UMMC complied with legal or regulatory requirements and best practices for its procurement of building automatic controls systems.

Scope and Purpose

Concerning UMMC's use of the UHC GPO, PEER addressed the following question:

- Is it good public policy for UMMC to participate in health care group purchasing organizations such as UHC?
- Has UMMC taken steps to assure the price benefits of its participation in the UHC GPO?

UMMC participates in at least one other health care GPO (Med Assets), but only the medical center's agreement with the UHC GPO was within the scope of this review.

Concerning complaints regarding UMMC's procurement of building automatic controls systems, PEER addressed the following question:

- Did UMMC comply with legal or regulatory requirements and best practices for its procurement of building automatic controls systems?

Method

In conducting fieldwork pertaining to UMMC's use of group purchasing organizations, PEER:

- reviewed state law and applicable policies and procedures concerning purchasing and contracting, as they pertain to UMMC's use of a group purchasing organization;
- conducted background research on health care GPOs;
- surveyed select health care providers that were reported to have chosen to exit a GPO in order to self-contract;

- reviewed UMMC's Group Purchasing Master Agreement with University HealthSystem Consortium;
- analyzed UHC's success in meeting the terms of the Group Purchasing Master Agreement between UMMC and UHC;
- interviewed UMMC staff concerning supply chain management and why UMMC chose to contract with a group purchasing organization; and,
- reviewed documents and data related to the complaints concerning UMMC's use of a GPO contract.

In conducting fieldwork pertaining to UMMC's procurement of building automatic controls systems, PEER:

- reviewed state law and applicable policies and procedures concerning the procurement of building automatic controls systems;
- conducted background research on the functionality of building automatic controls systems;
- interviewed UMMC staff and consultant concerning UMMC's procurement process for building automatic controls systems;
- interviewed Department of Finance and Administration (DFA) staff concerning DFA's procurement policy for building automatic controls systems; and,
- surveyed select hospitals as to their decision on whether to use a single-source or multiple-source building automatic controls system.

Background

In this chapter, PEER addresses the following questions:

- What is a health care group purchasing organization?
- By what legal authority does UMMC participate in health care GPOs?
- Why does UMMC use a health care GPO?
- To what extent does UMMC participate in the UHC GPO?

What is a health care group purchasing organization?

A health care group purchasing organization contracts with health care product suppliers to obtain set pricing for products based on an expected level of commitment and in return, members are able to purchase from the suppliers for the GPO's contracted prices instead of having to negotiate the prices individually.

A group purchasing organization is an entity that contracts with suppliers to obtain set pricing for products based on an expected level of commitment and in return, members are able to purchase from the suppliers for the GPO's contracted prices instead of having to negotiate the prices individually. According to the Health Industry Group Purchasing Association, a trade association that represents sixteen health industry GPOs, a health care GPO:

. . .helps health care providers (such as hospitals, ambulatory care facilities, nursing homes and home health agencies) realize savings and efficiencies by aggregating purchasing volume and using that leverage to negotiate discounts with manufacturers, distributors and other vendors.

While in existence since the early 1900s, health care group purchasing organizations proliferated in the 1980s and 1990s as hospitals, faced with rapidly rising expenditures and falling reimbursements from the government and private sector payers, searched for ways to control costs.

GPOs do not purchase or buy any products; rather, they negotiate contracts that health care providers can use when making their own purchases. GPOs negotiate by obtaining price concessions from vendors for all their members as well as administrative fees in exchange for some guaranteed minimum purchase volume. However, under GPO contracts, members are free to make non-GPO contracted purchases and often do.

Health care GPOs may also assist members' staff with product standardization and comparison shopping as well as streamlining their health care products and services or they may assist hospitals with procurement, storage, and transfer of pharmaceuticals, supplies, medical equipment, and food.

Generally, health care providers pay no fee for participation in the GPO, but may be assessed charges for additional services such as supply chain management³ consulting services (as is the case in UMMC's GPO contract with UHC; see Appendix A, page 35). While there is some variability in the structure of GPOs, in general their operations are funded through the collection of administrative fees from participating suppliers. The fee is generally set at three percent of the supplier's total sales made through the GPO. (The charging of administrative fees greater than three percent by a GPO requires approval by the U. S. Department of Health and Human Services.) The GPO then retains a portion of the administrative fees to cover its operating costs and then redistributes the remainder to its members in the form of patronage dividends based on the member's participation.

By what legal authority does UMMC participate in health care GPOs?

In 1996, the Legislature gave UMMC the legal authority to enter into group purchasing agreements.

In 1996, the Legislature enacted Chapter 496, *Laws of 1996*, which empowered UMMC to enter group purchasing agreements. By opinions of the Attorney General, the sections in this chapter must be read together with MISS. CODE ANN. Section 31-7-38 (1972), thereby placing any obligations imposed on hospitals entering into group contracts under CODE Section 31-7-38 upon UMMC also.

Prior to 2001, UMMC had to comply with CODE Sections 31-7-9 and 31-7-11, which empower DFA to promulgate purchasing regulations and approve purchasing practices. However, the 2001 amendments to CODE Section 31-7-38 removed these requirements and UMMC is exempted from the bid requirement and the requirement that agencies buy commodities at state contract price.

As a result, UMMC is permitted to enter into a group purchasing agreement to purchase products (and receive services) through purchasing contracts established

³ For hospitals, *supply chain management* includes the planning, coordinating, controlling, and directing of the activities of the overall hospital supply chain, including contracting for and purchasing hospital and clinical commodities, enlisting physician support, managing inventory, designing the optimal logistics scheme, management of supply chain staff, and use of performance measures to track progress in order to provide patient care at optimal value.

between the group purchasing organization and the supplier. Under a group purchasing agreement, UMMC does not have to contract for and purchase products individually, thus permitting UMMC to minimize the time and cost of negotiating multiple, separate contracts in compliance with the state's purchasing laws. Also, the time and cost associated with complying with the bid laws' requirements for competitive procurement are reduced.

Why does UMMC use a health care GPO?

UMMC chose to enter into a group purchasing organization in order to gain additional buying power as well as to simplify the procurement process.

According to UMMC, in or about 1997, UMMC began participating in the Premier⁴ group purchasing organization through UMMC's affiliation with Quorum Health. In 2008, University HealthSystem Consortium replaced Premier as UMMC's primary GPO. As noted on page 2, UMMC participates in at least one other health care GPO (Med Assets), but only the medical center's agreement with the UHC GPO was within the scope of this review.

UMMC chose to enter into a group purchasing organization in order to gain additional buying power as well as to simplify the procurement process. UMMC asserts that the benefits of participating in a GPO include better pricing by being able to purchase through the GPO rather than as an individual entity, requiring fewer staff to fulfill purchasing needs, and receiving comparative expenditure data from multiple hospitals, which enables UMMC to identify the reasonableness of quoted prices.

UMMC also asserts that self-contracting for products instead of using the GPO would add at least forty-five days to the supply chain pipeline, require additional warehouse space to support additional inventory due to the increased contracting time, and require additional staff and support costs for DFA and IHL to oversee the contracts.

Under the group purchasing agreement with UHC, UMMC pays no direct membership fees to be a part of the group purchasing organization but does have indirect costs under the agreement. For example, under the group purchasing agreement, UMMC is responsible for providing the on-site UHC personnel with office space, telephone lines, meeting space, and access to internal e-mail and voicemail. Additionally, while UMMC pays no direct fees to be a part of the GPO, the suppliers must pay administrative fees to the GPO based on a percentage of

⁴ Premier, an alliance owned and created by more than 200 hospitals and health systems (including large systems operating multiple hospitals, academic medical centers associated with universities, and community-owned hospitals), serves more than 2,400 U. S. hospitals and 70,000-plus other health care sites.

their GPO sales revenue, with those costs potentially being passed on in the product price to consumers such as UMMC.

UMMC is not obligated for a minimum or maximum amount of expenditures under its GPO agreement with UHC. However, the amount of the patronage dividends and rebates UMMC receives varies based on the amount spent, thus providing an incentive to maximize purchases under the agreement, when financially feasible (i. e., given certain pricing parameters, the amount of the patronage dividends and rebates could be large enough to offset the unit pricing differences between products purchased inside and outside the GPO).

To what extent does UMMC participate in the UHC GPO?

UMMC purchases its hospitals' and clinics' commodity items predominantly through the UHC GPO. These commodities come from twenty-seven product segments and represented an expenditure of approximately \$126 million in CY 2010.

What types of products does UMMC purchase through the GPO?

UMMC purchases most of its hospitals' and clinics' commodity items through UHC, but does not utilize the GPO to purchase commodities for its academic and research programs.

Because UHC provides 90% contract coverage for hospital and clinic commodity items (according to UHC data), UMMC chooses to purchase its hospital and clinic commodities predominantly through the UHC group purchasing agreement (see Appendix B, page 38, for the twenty-six product segments⁵ that UMMC procured through UHC in CY 2009 and CY 2010).

If hospital and clinic commodity items are available under the GPO, UMMC does not purchase them through some other means. UMMC works with UHC to negotiate custom contracts with national suppliers as well as local and diversity suppliers.

UMMC does not utilize a GPO to purchase commodities for its academic programs and research programs. These commodities include, but are not limited to, animals, biological products, and anatomical products.

⁵ The term *product segment* is used by UHC to identify similar categories of products. The term *product category* is used by the health care industry to identify similar types of products.

How much has UMMC spent through the UHC GPO?

In CY 2010, UMMC spent approximately \$126 million for commodities purchased through the UHC GPO. For that year, UMMC's expenditures for commodities through the UHC GPO represented 90% of UMMC hospitals' and clinics' total commodities expenditures.

In CY 2008, UMMC spent approximately \$28.4 million under its group purchasing agreement with UHC. As previous contracts with other suppliers expired and UMMC was able to increase its utilization of the UHC contract, UMMC increased purchasing under the UHC contract in CY 2009, spending approximately \$102 million.

In CY 2010, UMMC spent approximately \$126.6 million under the UHC contract, 24% more than in CY 2009. (Appendix B, page 38, lists UMMC's CY 2009 and CY 2010 expenditures, by product segment, through its group purchasing agreement with UHC.) UMMC utilized other purchasing means to spend approximately \$14 million for hospital and clinic commodities including blood products, transplant organs, and human tissue, as well as food. Overall, in CY 2010, UMMC's GPO expenditures for commodities represented 90% of UMMC hospitals' and clinics' total commodities expenditures.

UMMC's Use of Health Care Group Purchasing Organizations

Concerning UMMC's use of the UHC GPO, PEER addressed the following question:

- Is it good public policy for UMMC to participate in health care group purchasing organizations such as UHC?
- Has UMMC taken steps to assure the price benefits of its participation in the UHC GPO?

As noted on page 2, UMMC participates in at least one other health care GPO (Med Assets), but only the medical center's agreement with the UHC GPO was within the scope of this review.

Is it good public policy for UMMC to participate in health care group purchasing organizations such as UHC?

PEER's review of the literature from the first decade of the 2000s on the performance of group purchasing organizations yields a mixed bag of research and a significant lack of consensus on the effectiveness of health care group purchasing organizations. Thus PEER believes that the ultimate decision of whether it is good public policy for UMMC to continue to participate in GPOs will depend chiefly on the quality of the medical center's future contract provisions and performance measures. Under the current contract, these accountability elements are not adequate for effective decisionmaking.

As noted on page 1, GPOs were envisioned to create market leverage by bringing to the marketplace the commitment of large memberships to buy through the group, the theory being that a supplier would then put its best prices forward to obtain this large committed market share. In this chapter, PEER discusses the events that have occurred in the last twenty-five years regarding the evolution of the functions of health care group purchasing organizations.⁶

⁶ PEER consulted numerous sources regarding the history and effectiveness of group purchasing organizations to develop the discussion on pages 9 through 15 of this report. For ease of readability, PEER did not footnote each source consulted in this discussion, but would direct the reader to Appendix C, page 40, for a list of sources consulted. PEER will maintain in its offices a footnoted version of this section that shows complete attribution to the authors and will provide this information to any reader upon request.

This section addresses the following specific questions:

- Does the literature suggest that GPOs operate as originally envisioned?
- What does the research say about the purported effectiveness of GPOs?

See Appendix C, page 40, for a bibliography of the research literature used in this section.

Does the literature suggest that GPOs operate as originally envisioned?

Critics believe that certain regulatory protections afforded to GPOs in 1987 and 1996 may have led to the creation of a scenario whereby GPOs are driving up the costs of health care by engaging in anti-competitive practices to enhance their own revenues without necessarily securing the best products at the best prices for their members. Thus GPOs may not presently operate as originally envisioned.

PEER reviewed the literature on health care GPOs and believes that the simple concept of banding together to bring group purchasing power to the marketplace may, practically speaking, have been compromised in the implementation of GPOs.

Much of the controversy over the effectiveness of GPOs still centers on the perceived effects of regulatory protections afforded to the GPO industry in 1987 and 1996 that excluded the collection of GPO participation fees from GPO vendors⁷ from criminal prosecution or civil sanctions under federal anti-kickback and antitrust statutes. Prior to the regulatory changes, GPO member health care providers paid membership fees to support the GPO, while the supplier paid no administrative fees. (At the time, such fees were considered illegal kickbacks.) After the 1987 and 1996 regulatory protection changes, GPO suppliers were omitted from the federal anti-kickback provisions, thus leading to a decline in GPO membership fees for member health care providers and, in turn, the creation of supplier administrative fees suppliers must pay the GPO based on a percentage of all sales to members in order to be a contracted supplier.

Proponents of regulatory protections argue that the collection of participation fees from vendors was a needed way to fund GPO operations, as health care providers lacked the financial resources to sustain GPOs through membership fees. Opponents of the regulatory protections argue that these regulatory protections have led to the creation of an industry that is driving up the costs of health care by engaging in anti-competitive

⁷ A *participating vendor* with respect to a GPO is a manufacturer, distributor, supplier, or other entity that has a contract with the GPO to provide goods or services to GPO members.

practices in order to enhance its own revenues to the detriment of securing the best products at the best prices for its members (i. e., health care providers). Early in the decade of the 2000s, concerns regarding GPOs' business practices reached the congressional level and resulted in a series of largely internal reforms that have not completely silenced GPO critics in the years since.

Critics of GPOs argue that the current funding or compensation approach--in which GPOs' revenues are based on a percentage of the suppliers' sales (i. e., administrative fees)--makes GPOs ineffective as purchasing agents because GPOs have a financial incentive for suppliers to charge higher prices, rather than lower prices. Changes in the anti-trust regulations in the 1980s and 1990s have permitted GPOs to generate their primary income through fees charged to suppliers based on sales to their members. Critics argue that the GPOs' focus has shifted from the initial mission of using market power to find the best medical products at the best prices to an industry in which seeking lower prices from suppliers is secondary to pursuing higher returns from products that maximize revenues for GPOs.

In 2002, one critic concluded that the relaxation of antitrust laws, the creation of the anti-kickback safe harbor, and accompanying concentration of market power in two dominant GPOs have combined to reduce competition significantly, stifle innovation, and create barriers to market entry in the health care system.

In a 2003 study of GPOs' contracting processes and strategies, the U. S. Government Accountability Office (GAO) determined that even though the GPO anti-kickback exclusion incorporated a general cap on administrative fees that GPOs could charge their vendors (i. e., three percent of the purchase price), the typical contract administrative fee paid to GPOs by private label manufacturers was five percent, with one GPO charging a private label administrative fee of nearly eighteen percent. The GAO study noted that in addition to the higher administrative fees charged to private label manufacturers, some GPOs were also charging private label manufacturers separate licensing fees.

One researcher argues that the sales-based fees that GPOs charge vendors have no relation to the cost of operating a GPO. Under normal circumstances this type of "pay to play" arrangement would be considered a kickback.

What does research say about the purported effectiveness of GPOs?

Research on the effectiveness of health care group purchasing organizations shows a significant lack of consensus, ranging from claims of GPOs saving the U.S. health care system up to \$64 billion annually to claims of GPOs failing to consistently offer their members the best products and costing member hospitals up to \$37.5 billion annually in inflated prices. PEER notes that industry groups aligning on either side of the issue have sponsored much of the research on the topic.

The research literature of the first decade of the 2000s is a mixed bag, with a significant lack of consensus on the effectiveness of these health care group purchasing organizations. While some research on the effectiveness of health care group purchasing organizations concludes that GPOs create significant cost savings for their members and the U. S. health care system, other research concludes that GPOs do not always offer members the best products at the lowest prices and further, that GPOs are a major factor contributing to significant increases in the cost of health care in the United States.

Industry groups aligning on either side of the issue have sponsored much of the research on the topic. GPOs and their trade association, the Health Industry Group Purchasing Association (HIGPA), have funded much of the research championing the benefits of GPOs. The Medical Device Manufacturers Association, a national trade association for innovative and entrepreneurial medical technology companies (which generally are smaller companies that have believed that they were unfairly excluded from GPO contracts), has funded research challenging the effectiveness of GPOs.

Do GPOs offer the best prices?

Research based on hospital and nursing home surveys concludes that GPOs have saved members from ten to eighteen percent of total purchasing costs (up to \$64 billion in savings to the U. S. health care system in CY 2008), by negotiating lower prices for products and by helping members to achieve cost savings through improved management of their supply chains. However, opposing research has concluded that GPOs do not always offer the best prices, costing member hospitals up to \$37.5 billion annually in inflated prices.

In theory, GPOs should be able to use the combined purchasing power of their members to negotiate vendor contracts for the best products at the best prices. GPOs note that their collective buying strength is particularly important to small rural and community hospitals that individually lack the purchasing power to negotiate the most competitive prices with vendors.

Research based on hospital and nursing home surveys concludes that GPOs have saved members from ten percent to eighteen percent of total purchasing costs (i. e., up to \$64 billion in savings to the U. S. health care system in CY 2008).

In 2008, two researchers applied the estimated savings of ten percent to eighteen percent reported by health care providers utilizing a GPO to national health non-labor expenditure data for hospitals and nursing homes and GPO market share data to arrive at their conclusion that in calendar year 2008, GPOs generated overall savings of between \$29.3 billion and \$64.5 billion for the U. S. health care system.

In 2009, another researcher surveyed twenty-eight hospital systems (representing 429 hospitals) regarding their purchase of a range of products through GPOs. The survey respondents reported purchasing 72.8% of their goods through GPOs and anticipated average savings of 18.7% on purchases made through a GPO. Applying the anticipated savings percentage to estimated purchases of these products made through GPOs, the researcher estimated that GPOs annually save the U. S. health care industry \$36 billion in price savings and over \$2 billion in workforce savings associated with the purchasing process. This researcher also found that GPO members consider the ability to obtain price protection⁸ and additional leverage with negotiating with suppliers that they would not have on their own as two of the benefits of GPOs.

Opposing research has concluded that GPOs do not always offer the best prices, costing member hospitals up to \$37.5 billion annually in inflated prices.

Opposing research has concluded GPOs do not always offer the best prices. A 2002 pilot study of GPOs conducted by the U. S. Government Accountability Office found that health care group purchasing organizations do not always offer hospitals lower prices. GAO's comparison of GPO-negotiated prices to prices obtained by hospitals purchasing on their own showed that the large hospitals included in the study (hospitals with more than 500 beds) often obtained lower prices on their own than by using a GPO. The GAO study documented several instances in which individual hospitals using a large GPO's contracts paid prices that were at least twenty-five percent higher than prices negotiated by hospitals on their own. Based on

⁸ In this case, *price protection* refers to the ability of GPO members to fix the price of specified goods for the duration of the contract period without individually directly contracting with a supplier.

their analysis of 8,100 aftermarket transactions,⁹ two other researchers concluded that GPOs fail to secure the best prices for their members, costing member hospitals up to \$37.5 billion annually.

A 2008 study concluded that GPOs' success may be mixed.

A 2008 study of hospital GPOs funded by the National Science Foundation and the Center for Health Management Research found the health care cost savings achieved by GPOs to be most significant for commodity and pharmaceutical items. However, the study also concluded that GPOs appear less successful in mediating the purchase of expensive physician-preference items. Overall, the study concluded that the survey data suggests that hospital purchasing alliances (i. e., GPOs) succeed in reducing health care costs by lowering product prices through the pooled purchasing power of hospitals buying products on nationwide contracts and through the establishment of price ceilings in the contracts beneath which hospitals negotiate on their own.

Do GPOs reduce supply chain costs?

One researcher found that hospitals utilizing GPOs avoided an average of \$1,367 in contracting costs per contract by utilizing a GPO. Per-contract costs when utilizing GPOs averaged \$1,749, while costs for self-contracting averaged \$3,116 per contract.

Based on case studies of fifty-five hospitals at ten multi-hospital systems focusing on the costs avoided by using group purchasing contracts, as conducted by UHC and BD Healthcare Consulting and Services, one researcher found that hospitals avoided an average of \$1,367 in contracting costs per contract utilizing a GPO versus self-contracting (ranging from \$1,661 in average contracting costs avoided per contract in radiology to \$1,094 in cardiology). The contracting activities with the largest percentage of costs avoided per contract under a GPO were preparing requests for proposals and bids and sending requests for proposals and bids; the contracting activities with the smallest percentage of costs avoided per contract under a GPO were monitoring contract compliance and conducting product evaluation. The researcher acknowledged that according to interviews with the surveyed hospital department managers, most respondents did not have an understanding of the cost of contracting and did not routinely study their own costs associated with

⁹ For the purposes of this report, an *aftermarket transaction* occurs when a GPO member hospital uses the GPO price for a particular product as a price ceiling to try to negotiate a lower price outside the GPO by delivering direct purchase volume that would otherwise go to the GPO supplier.

purchasing, thus limiting their ability to truly understand the actual cost of a contract and goods purchased.

How do GPOs affect product offerings?

While GPO members have reported that group purchasing organizations assist them with increasing product standardization in order to reduce costs and error, critics of GPOs claim that those organizations' contracting practices block new entrants to the market and stifle product innovation.

Some health care group purchasing organization members report that they benefit from the standardization that GPOs help to drive throughout the system, including standardization of products. Such standardization reportedly increases efficiency in the clinical arena and improves patient outcomes. However, one researcher wrote that one of the ethical tensions the GPO industry faces is the tension between the standardization of medical supplies and equipment and the need to adopt rapidly improving technologies that improve medical outcomes.

Other researchers' study of group purchasing organization aftermarket transactions raised concerns that certain GPO contracting practices have the potential to block new entrants to the market and stifle product innovation. GPO contracting practices that raise anticompetitive concerns for the authors include sole-sourcing and dual-sourcing, bundling discounts (discounts conditioned on a hospital buying multiple products together), and share-based loyalty provisions (provisions that impose commitment requirements on members).

Investigative reports on the GPO industry published in the *Fort Worth Weekly* and *The New York Times*¹⁰ included several examples of manufacturers of reportedly superior medical products that were effectively locked out of the health care supply market by these types of GPO contracts. Retractable Technology, Inc., won an antitrust case against the two largest GPOs (UHC and Premier) for approximately \$150 million after not being able to compete for a syringe contract, despite its retractable syringe technology, due to a sole-source contract the GPOs had in place with Becton Dickson. Also, in 2009 the Ninth Circuit Court of Appeals ruled in favor of Masimo Corporation, affirming a lower district court's decision that Tyco Healthcare had unlawfully restrained trade by entering into sole-source and share-based loyalty agreements with Premier and UHC.

¹⁰ Article published March 4, 2002, entitled "Medicine's Middlemen: Questions Raised of Conflicts at 2 Hospital Buying Groups," reported by Walt Bogdanich, Barry Meier, and Mary Williams Walsh.

Has UMMC taken steps to assure the price benefits of its participation in the UHC GPO?

UMMC's accountability system does not contain the elements needed to help ensure that UHC secures the best products at the best prices and avoids anti-competitive practices because UMMC does not have measures in place to examine the comparative differences in GPO prices versus market prices. Also, UMMC and UHC have not complied with the contract provision regarding the establishment of performance measures.

Does UMMC have the measures needed to compare GPO prices and market prices?

UMMC does not have measures in place to examine the comparative differences in GPO prices versus market prices.

In view of conflicting research outcomes on the effectiveness of GPOs, PEER concluded that the ultimate decision of whether it is good public policy for UMMC to continue to participate in the UHC group purchasing organizations largely depends on the quality of UMMC's performance measures and contract provisions. Based on this assertion, answering the question of the effectiveness of participating in a GPO is highly contingent on UMMC's ability to examine the comparative differences in GPO prices versus market prices. The following three elements should be the focal elements in the required performance measurement system:

- *price comparisons*--UMMC should establish a system for monitoring the GPO's performance by comparing prices for a sample of products purchased through the GPO to market prices available outside the GPO (either via self-contracting, market basket study, or some other means):
 - when comparing product prices, UMMC should compare the net price for products (rather than just unit prices) in order to account accurately for all applicable manufacturer rebates, GPO patronage dividends, or other available discounts that could be tied to the purchase of the product;
 - the resulting monitoring system should allow UMMC to determine whether the prices actually paid through its GPO compare to market basket prices for similar or identical items procured through other market means (e. g., the prices for GPO items should be, on average, better than 5% lower than prices for similar items that could be obtained through other market means); and,

- the resulting analytic process should encompass comparisons of a broad range of purchases, including pharmacy items.
- *ratio analysis*--Because administrative costs can be negotiated, UMMC should consider the cost implications of the following types of ratios when analyzing cost differentials:
 - the ratio of total GPO administrative fees to the product costs purchased under the GPO; and,
 - the ratio of an estimate of the administrative cost UMMC would pay to run its own procurement process to market prices in order to give some indication as to whether it is wise to remain in a GPO.
- *trend analysis*--Before making a decision on remaining in a GPO, UMMC should study the trends of market prices and GPO prices. It is possible that market prices might be lower but ascending at a higher rate than GPO prices, for example.

Only if these critical elements are in place can UMMC ensure a thorough collection and analysis of the specific performance data needed to determine whether UHC or any other GPO is securing products and services in a manner that ensures that the use of GPOs is reasonable and necessary as contemplated under law. When procurement practices do not ensure that products are the best and obtained at the best prices, a question could arise as to whether the use of a GPO is reasonable and necessary as required by CODE Section 37-115-31.

Does UMMC's contract with UHC contain performance measures for the GPO?

UMMC and UHC have not complied with the contract provision regarding the establishment of performance measures.

As noted on page 6, UMMC entered into a group purchasing agreement with UHC on June 30, 2008, for a term of five years. The purpose of the contract was to provide UMMC with:

- access to suppliers at favorable prices;
- support of supply chain management through the provision of technology and professionals with experience in supporting academic hospitals (see Appendix A, page 35, for supply chain services provided by UHC under the current group purchasing agreement); and,
- other significant rebates and dividends to the hospital.

The agreement between UMMC and UHC contains a specific clause that states:

Establish agreed upon measures of success and benchmarks to track the progress of the goals and objectives and agree on such measures and benchmarks within 90 days of the onset of the contract.

PEER reviewed the records and responses UMMC provided regarding measurement of performance and accountability under the contract and could not identify any measures or benchmarks that have been established in compliance with this provision.

UMMC and UHC did establish a financial incentive package under Chapter VII of the group purchasing master agreement in which UHC, as the primary provider of GPO services to UMMC, included the following guarantees:

- *Identified and approved savings of \$12 million over the full 5-year term (subject to certain conditions);*
- *Standardized programs rebates¹¹ and manufacturer rebates¹² paid 100% in cash, estimated at 7.5 million over 5 years based on participation;*
- *Patronage dividend¹³ returned quarterly in equity and cash, estimated at 1.3 million annually based on a \$100 million annual spend.*

However, these financial measures do not fully depict the financial performance of UHC in being able to deliver value to UMMC. For example, UMMC's GPO contract only tracks "identified and approved savings of \$12 million over the full 5-year term, subject to certain conditions" for products in which savings occur, but does not track UMMC's overall unit costs (or individual unit costs) for procuring products under the GPO.

Because the group purchasing agreement with UHC does not include a measure of net costs (i. e., increased, decreased, by what amount), UMMC is not able to measure effectively the success of the GPO in achieving overall cost savings (or cost avoidance). UMMC is also not able to

¹¹ *Standardization program rebates* are paid quarterly to UHC members based on member participation in UHC's standardization program.

¹² *Manufacturer rebates* are product rebates offered by suppliers based on group purchasing agreements. Manufacturer rebates are paid directly to UHC by the supplier and then paid in full to members within thirty days of receipt by UHC.

¹³ As a cooperative, UHC distributes all of its taxable operating income annually as *patronage dividends* (cash and equity) to members based on their participation. The non-cash portion of the patronage dividend (officially known as *patronage equity certificates*) may be used to fund members' participation in UHC's products and services not covered under the contractual agreement.

determine the rate at which product unit costs are changing (either positively or negatively) under a GPO. Furthermore, while UMMC staff state that they verified \$10,837,331 in savings through May 29, 2011, under the group purchasing agreement with UHC, UMMC did not provide documentation of this savings for PEER to review, since UMMC no longer has access to its previous pricing under Premier.

Also, while such financial incentives could be considered a measure of performance, the financial incentives laid out in the group purchasing master agreement did not exempt UMMC and UHC from establishing the separate performance measures, goals, and objectives required by the group purchasing master agreement.

Failure to establish such benchmarks and measures creates a void in UMMC's capacity to manage its procurement. Such measures, if adopted, would enable the institution to determine whether it has achieved its goals for the contract as measured by standards agreed upon by UMMC and UHC. Without these standards, UMMC must rely on either the representations of the provider or forms of post-hoc analysis which, while potentially useful, would not be as useful as systems designed from the outset to measure performance.

UMMC's Procurement of Building Automatic Controls Systems

Concerning complaints regarding UMMC's procurement of building automatic controls systems (see pages 1 and 2), PEER addressed the following question:

- Did UMMC comply with legal or regulatory requirements and best practices for its procurement of building automatic controls systems?

Did UMMC comply with legal or regulatory requirements and best practices for its procurement of building automatic controls systems?

While UMMC did not violate any law or regulation regarding procurement of building automatic controls systems in the circumstances PEER reviewed, UMMC could improve its management of the process for procuring such systems to allow for greater competition among vendors.

What are building automatic controls systems?

A building automatic controls system is a computerized, intelligent network of electronic devices designed to monitor and control the mechanical and lighting systems in a building.

A building automatic controls system is a computerized, intelligent network of electronic devices designed to monitor and control the mechanical and lighting systems in a building. Building automatic controls systems functions include keeping the building climate within a specified range; providing lighting based on an occupancy schedule; monitoring system performance and device failures; and providing e-mail and/or text notifications to building engineering staff. A building automatic controls system is intended to help facility managers reduce building energy and maintenance costs when compared to a non-controlled building.

What legal and regulatory requirements apply to UMMC's procurement of building automatic controls systems when using self-generated funds?

While UMMC projects funded through appropriations or bonds must comply with DFA regulations, projects utilizing self-generated funds may be contracted without significant control by DFA.

The University of Mississippi Medical Center's legal obligation regarding the procurement of controls systems and other items associated with construction or renovation projects is based on the source of funds that UMMC uses for these projects. Appropriated funds and state bond funds utilized for construction projects may be expended only in accordance with guidelines of the Department of Finance and Administration's Bureau of Building. In instances wherein IHL entities use self-generated funds for a project, the Department of Finance and Administration's controls are limited. Generally, IHL's constitutional mandate to manage and control its subordinate institutions has been construed by courts to grant them considerable autonomy from the regulations of the Bureau of Building in projects utilizing self-generated funds [see *State ex rel Allain v. Board of Trustees, Institutions of Higher Learning*, 387 So 2d 89 (Miss, 1980)]. The projects discussed in this chapter were procured with self-generated funds.

Did UMMC follow best practices in procuring building automatic controls systems for its medical and research facilities?

UMMC did not conduct a formal cost-benefit study or medical safety risk assessment prior to making its decision to remain with Johnson Controls as the sole-source provider for building automatic controls systems¹⁴ for its medical and research facilities.¹⁵ As a result, UMMC did not assure that it did not restrict competition among potential vendors and thus could potentially be paying more than is necessary for its building automatic controls systems.

¹⁴ A *building automatic controls system* is a computerized, intelligent network of electronic devices designed to monitor and control the mechanical and lighting systems in a building. Building automatic controls system functions include keeping the building climate within a specified range, providing lighting based on an occupancy schedule, monitoring system performance and device failures, and providing e-mail and/or text notifications to building engineering staff.

¹⁵ The *medical and research facilities* would include the hospitals and any facility in which sensitive research is conducted (e. g., sensitive to temperature or air pressure). UMMC believes that medical and research facilities could face a risk in the event of a breakdown in the building automatic controls system infrastructure.

What best practices apply to UMMC's procurement of building automatic controls systems for medical and research facilities?

In making a decision regarding procurement of a building automatic controls system, including whether to use a single-source or multi-source provider, hospitals should study in detail at least three factors: technical feasibility, medical safety and accompanying risk, and costs.

While the requirement for UMMC to follow DFA's Energy Management Systems and Mechanical Controls Procurement policy is subject to the source of funds, UMMC has a responsibility to seek controls systems at the lowest and best price, even if that means going beyond the minimum statutory requirements.

In making a decision regarding procurement of a building automatic controls system, including whether to use a single-source or multi-source provider, PEER believes that hospitals should study in detail at least three factors: technical feasibility, medical safety and accompanying risk, and costs.

In considering these factors, the following are the types of questions that could be considered:

- *Technical Feasibility*--What are the technical capabilities of building automatic controls systems? From a technical standpoint, is it feasible to use a multi-source building automatic controls system in a hospital/research setting or is a sole-source system required? If so, what are the limitations (in terms of system integration, operation, and service issues), if any, of using multi-source building automatic controls systems instead of continuing to utilize a sole-source building automatic controls system?
- *Medical Safety and Accompanying Risk*--Are there increased medical safety issues when it comes to operating a multi-source building automatic controls system versus a sole-source building automatic controls system in a hospital/research setting? If so, what medical safety issues should be considered? What is the potential risk for system failure for a sole-source building automatic controls system versus a multi-source building automatic controls system in a hospital/research setting? What is an acceptable risk for system failure for a sole-source building automatic controls system versus a multi-source building automatic controls system in a hospital/research setting?
- *Costs*--In terms of costs of a building automatic controls system in a hospital/research setting, what are the key cost components (e. g., cost of equipment, training costs, maintenance costs, purchasing costs) in determining the cost of a sole-source building

automatic controls system versus a dual-source/multi-source building automatic controls system in a hospital/research setting?

Incorporating the above three factors, best practices would dictate that in order to make a sole-source decision to procure building automatic controls systems for a medical or research building, the following analysis should be conducted:

1. *Determine whether a medical safety or research risk exists.* If the building (e. g., a medical or research facility in this case) were to experience a failure with the building automatic controls system, to what extent could such a failure pose a risk to patient care or cause the loss of significant research value?
2. *Conduct a risk assessment of building automatic controls options to determine what building automatic controls systems are technically capable of meeting the defined risk.* Given the technical capabilities of the potential building automatic controls system options for the building as well as the risk associated with the building, what building automatic controls system options are available that are capable of mitigating the medical safety or research risk to acceptable standards? If only one building automatic controls system option is capable of mitigating the defined risk, the building operator would have sole-source justification to use the sole technically capable building automatic controls system. However, if multiple building automatic controls system options are available to mitigate the defined risk, continue to step 3.
3. *Conduct a cost-benefit analysis to determine which technically capable building automatic controls system option to install in the building.* Using the building automatic controls system options that are technically capable of meeting the defined risk based on the documented risk assessment, conduct a cost-benefit analysis to determine which technically capable building automatic controls system option to install in the building. Cost components could include the cost of equipment, training costs, maintenance costs, and purchasing costs.

Has UMMC tended to utilize sole source providers for building automatic controls systems in recent history?

UMMC started with Johnson Controls as its sole-source provider of building automatic controls systems in 1981 because at that time, building automatic controls systems were only able to communicate with systems made by the same company. Technological changes, including BACnet, have changed the environment since that time and other vendors

want to be able to compete to be building automatic controls systems providers for UMMC. However, DFA has permitted UMMC to continue to use Johnson Controls as a sole-source provider for medical and research facilities.

For UMMC, the primary building automatic controls system is the Johnson Controls Metasys System. UMMC's building automatic controls system currently controls over 72,000 points, including maintaining control over approximately 95% of UMMC's heating, ventilation and air conditioning (HVAC) system. UMMC utilizes the building automatic controls system to control and program mechanical and lighting systems including, but not limited to, the following: HVAC system; vacuum utilities (e. g., for medical waste, blood); domestic and chilled water systems; and medical gases. The Johnson Controls Metasys System currently controls and monitors devices in UMMC hospitals, clinics, research facilities, academic buildings, administrative office buildings, apartments, and the student union.

When UMMC first established the Johnson Controls Metasys system as its master system for its building automatic controls system in 1981, building automatic controls systems were only able to communicate with systems made by the same company. As a result, at the time, UMMC chose Johnson Controls as the sole-source provider. Since 1981, technological changes, including the publishing of the BACnet¹⁶ standard in 1995, have changed the environment. The BACnet standard language established communication between systems for the purpose of monitoring and controlling systems made by different manufacturers. However, UMMC still cited a need for Johnson Controls as a sole-source supplier for building automatic controls systems for UMMC's medical and research facilities. UMMC's sole-source position was and still is based on perceived cost concerns and medical safety risk issues pertaining to operating a campus-wide building automatic controls system.

After the growth of BACnet, accompanied by the changing compatibility strategies by controls systems manufacturers, complaints began to come from building automatic controls system and HVAC equipment providers who claimed they were unable to compete for building automatic controls projects on UMMC's campus, despite the advances in compatibility.

In July 2010, with complaints continuing to come from building automatic controls system and HVAC equipment providers who claimed they were unable to compete for

¹⁶ *BACnet* is a data communication protocol for building automatic controls networks. A data communication protocol is a set of rules governing the exchange of data over a computer network. The rules take the form of a written specification (in BACnet's case they are also on compact disc) that spells out what is required to conform to the protocol.

controls projects on UMMC's campus, UMMC and DFA reached an agreement that required UMMC to open the non-medical, non-research facilities to competition but allowed it to retain Johnson Controls as a sole-source provider for controls projects for the medical and research facilities.

Did UMMC conduct a cost-benefit study or medical safety risk assessment prior to contracting with Johnson Controls for building automatic controls systems?

UMMC has not conducted a formal cost-benefit study or medical safety risk assessment to justify its decision to retain Johnson Controls as the sole-source provider for its building automatic controls systems for its medical and research facilities.

Regarding its consideration of whether to replace controls components that are part of its building automatic controls system (i. e., the Johnson Controls Metasys system), UMMC cites perceived maintenance costs and medical safety risk issues as significant factors for utilizing Johnson Controls as a sole-source provider for its building automatic controls system for the medical and research setting (as opposed to a dual source or multi-source system). UMMC's decision to remain with Johnson Controls as a sole-sourced building automatic controls system is also based on the technical capabilities of operating a multi-sourced building automatic controls system versus a sole-source building automatic controls system and UMMC's chosen level of acceptable risk concerning life safety.

PEER determined that UMMC has not conducted a formal cost-benefit study or medical safety risk assessment to justify its decision to remain with Johnson Controls as the sole-source provider for its building automatic controls systems for the medical and research setting. (See discussion of the factors of technical feasibility, medical safety and accompanying risk, and costs that hospitals should study in selecting building automatic controls systems, page 22.) Instead, UMMC, based on the experience of its staff and outside consultants, perceived that there would be increased maintenance cost due to the potential need for additional maintenance staff, service agreement, and parts. UMMC staff also believed there to be increased medical risks due to the inability of the Johnson Controls Metasys master system¹⁷ to reprogram the non-Johnson Control sub-systems¹⁸ (e. g., Siemens,

¹⁷ The *master control system* is the main system that monitors, controls, and if capable, programs the sub-systems. For UMMC, the Johnson Controls Metasys master control system is located in UMMC's Office of Physical Facilities.

¹⁸ The *sub-control systems* are monitored, controlled, and if capable, reprogrammed, by the master sub-system and are in the facilities with their corresponding HVAC units, chillers, and boilers.

Trane, Honeywell) and thus based its sole-source decision on such risk, without formally determining whether there was a resulting medical safety risk.

PEER acknowledges that while technical limitations exist to utilizing a multi-source building automatic controls system, such technical limitations do not necessarily preclude UMMC from researching additional opportunities, where possible, to open its building automatic controls systems up to competition, where feasible.

PEER acknowledges that technical limitations exist to utilizing a multi-source building automatic controls system versus a single-source building automatic controls system. From a technical standpoint, while BACnet has improved the ability of different vendors' control systems to interact, such capabilities are limited to monitoring, controlling, and commanding and the language has not yet grown enough in its capabilities to provide for a single programming language between systems.

PEER contacted three other Mississippi hospitals (Veterans Affairs Hospital in Jackson, Gulf Coast Veterans Affairs Hospital, and Oktibbeha County Hospital Regional Medical Center) and another academic medical center in the Southeast (University of Alabama-Birmingham Medical Center) and found that the decision to utilize a sole-source vs. multi-source building automatic controls system varies by hospital and is usually made on the basis of acceptable risk, costs, service, and technical capabilities. Also, the U. S. Army Corps of Engineers concluded¹⁹ in 2007 that even with BACnet, it was not possible to have one (integrated, multi-vendor) system with no future dependence²⁰ on any one contractor (i. e., an "open system") and that a significant amount of design and contract documentation would be required to attempt to implement BACnet in an open manner.

While technical limitations exist to utilizing a multi-source building automatic controls system, such technical limitations would not necessarily preclude UMMC from researching additional opportunities to open its building automatic controls systems to competition. For example, UMMC could consider the University of Alabama-Birmingham Medical Center's model whereby each individual medical facility is considered stand-alone with its own sole-source building automatic controls master system and sub-system supplier, but in which each new or significantly renovated medical facility is open to

¹⁹ In 2007, the U. S. Army Corps of Engineers Engineer Research and Development Center released a technical assessment report entitled *Development of an Open Building Automation System Specification Based on ANSI/ASHRAE 135-2004 (BACnet® Communications Protocol)*.

²⁰ In this case, PEER refers to no future dependence on either the specific installing controls contractor or the manufacturer of the controls.

competitive bidding to building automatic controls suppliers.

Because UMMC's sole-source position is not based on a documented cost study or medical risk assessment, UMMC is unable to demonstrate whether UMMC was correct in its perceived need for a sole-source building automatic controls system in medical and research facilities. As a result, UMMC cannot demonstrate that it has not restricted competition among potential vendors. UMMC could potentially be paying sole-source pricing for control systems by not opening its controls projects in the medical and research facilities to competition among potential qualified service and control system providers. UMMC has also not taken advantage of the opportunity to seek quotes from additional vendors even though at least two have consistently expressed interest in competing for UMMC building automatic controls system projects.

Did UMMC comply with legal requirements and follow best practices in procuring building automatic controls systems for its non-medical, non-research facilities?

UMMC sought quotes from two vendors (as required by DFA) for building automatic controls systems for one of its non-medical, non-research facilities,²¹ even though two additional controls vendors have been attempting to compete for UMMC's business. Therefore, although UMMC followed DFA's guidelines for procuring the systems, UMMC did not take advantage of an opportunity to assure that it obtained the lowest and best price.

What best practices apply to UMMC's procurement of building automatic controls systems for non-medical, non-research facilities?

In order to achieve the goal of lowest and best price, the best practice for procuring building automatic controls systems for non-medical, non-research facilities would be open, competitive solicitation of vendors.

In order to achieve lowest and best price, the best practices criteria for open, competitive solicitation would necessitate that UMMC openly solicit bids from vendors. An open solicitation or open bidding process would not restrict the ability of vendors who had requested the opportunity to bid in the past from having an opportunity to bid.

²¹ The *non-medical, non-research facilities* would include academic buildings (classrooms, professors' offices, and non-sensitive research), administrative buildings, student housing, student union, and the Ronald McDonald House.

Is UMMC taking steps to promote more competitiveness in the procurement of building automatic controls systems for its facilities?

Supplier complaints about the level of open competition concerning UMMC's building automatic controls system led to a July 2010 agreement between UMMC and DFA in which UMMC opened the non-medical, non-research facilities to competition. DFA allowed UMMC to retain Johnson Controls as a sole-source provider for existing facilities and medical and research facilities.

In 2009, PEER received complaints from building automatic controls system and HVAC equipment providers who claimed they were unable to compete for building automatic controls system projects on UMMC's campus. At that time, UMMC cited a need for Johnson Controls as a sole-source supplier for building automatic controls systems for the entire campus because UMMC had used Johnson Controls Metasys as its master controls system since 1981. UMMC's sole-source position was based on cost concerns and medical issues pertaining to operating a campus-wide building automatic controls system.

In July 2010, with complaints still coming in from building automatic controls system and HVAC equipment providers who claimed they were unable to compete for projects, UMMC and DFA reached an agreement that required UMMC to open the non-medical, non-research facilities to competition for controls while permitting UMMC to continue to use Johnson Controls as its sole-source provider for building automatic controls systems for the medical and research facilities. Competition, in this case, would be based on DFA's Energy Management Systems and Mechanical Controls Procurement policy, presented in Appendix D under the "Procurement Procedures" section, page 43.

As part of the agreement with DFA, UMMC also agreed to bid the building automatic controls systems as an allowance²² (per DFA guidelines), thus not permitting building automatic controls system providers to bundle their building automatic controls systems with HVAC, chiller, or other linked equipment. Previously, competing providers had complained that Johnson Controls, as UMMC's sole-source provider of building automatic controls systems, could bundle its building automatic controls system bid with its HVAC system, bid the HVAC at a lower price, and subsequently charge a higher price for the building automatic controls system component.

²² The establishment of *cash allowances* in construction contracts is a convenient method of allocating construction funds to portions of the work--in this case, the building automatic controls systems--that cannot be specified with sufficient particularity for competitive bidding at the time of contracting.

For the first building procured under the agreement with DFA, UMMC sought quotes from two vendors (as required by DFA) for building automatic controls systems for one of its non-medical, non-research facilities, even though two additional controls vendors had been attempting to compete for UMMC's business. Thus although UMMC followed DFA's guidelines for procuring the systems, UMMC did not take advantage of an opportunity to seek the lowest and best price.

In February 2011, UMMC bid out its first building automatic controls system project for a non-medical, non-research facility under the agreement with DFA. According to UMMC's Executive Director of Facilities Management, UMMC requested bids from Andover and Johnson Controls, but not from any other providers. As a result, Andover (now Schnyder's Electric) was approved as the low quote over Johnson Controls for the controls component for UMMC's non-medical, non-research facility at 764 Lakeland Drive, with the controls component being bid using DFA's policy recommending bidding controls as an allowance. (This building will house clinical practices for ophthalmology, family medicine, and otolaryngology.) Since UMMC only had to request proposals from two contractors, UMMC followed the guidelines in requesting two bids for the non-medical, non-research facility.

While UMMC and DFA's guidelines for bidding building automatic controls system projects only require that UMMC solicit proposals from two contractors, nothing prohibits UMMC from seeking additional proposals from other providers. When queried as to the reasoning for requesting bids only from Andover and Johnson Controls, UMMC staff cited the agreement with DFA (i. e., DFA's Energy Management Systems and Mechanical Controls Procurement policy). DFA's policy states:

Once the General Contract has been awarded, proposals should be solicited from no less than two controls contractors. These contractors may be selected by the using agency with the firm providing the BEST VALUE proposal being selected. If the Using Agency will agree to award based on price only, the BEST VALUE evaluation is not required. If the site currently has two or more acceptable vendors, no additional proposals will be required.

However, nothing would preclude UMMC from soliciting bids from more than two contractors, as is detailed in the following section.

Although UMMC followed DFA's guidelines for procuring the building automatic controls systems, UMMC did not take advantage of an opportunity to assure that it obtained the lowest and best price for controls systems for the non-medical, non-research facility project.

At the time of the bid, two additional vendors were on record as wanting to have the opportunity to compete for UMMC's business, but were not contacted by UMMC. Thus although UMMC followed DFA's guidelines for procuring the building automatic controls systems, UMMC did not take advantage of an opportunity to assure that it obtained the lowest and best price for building automatic controls systems for the non-medical, non-research facility project.

UMMC has a responsibility to seek control systems at the lowest and best price, even if that means going beyond the minimum policy or statutory requirements. As noted on page 27, in order to achieve lowest and best price, a best practices criteria for open, competitive solicitation would necessitate that UMMC openly solicit bids from vendors. An open solicitation or open bidding process would not restrict the ability of vendors that had requested the opportunity to bid in the past from having an opportunity to bid.

By seeking quotes from two vendors (as required by DFA) for control systems despite clear attempts by two additional vendors to compete for UMMC's business, UMMC did not follow best practices for competitive procurement. While UMMC followed the DFA guidelines and was in compliance with state law (see MISS. CODE ANN. Section 31-7-1 et seq.) pertaining to procurement, UMMC did not attempt to seek the lowest and best price through competitive solicitation.

Recommendations

UMMC's Use of the UHC GPO

1. UMMC should identify and consider all reasonable alternatives in procuring products and managing its supply chain. UMMC's decision to move forward should be based on a cost-benefit analysis that fully assesses and documents UMMC's supply chain needs and the costs and benefits of each proposed supply chain solution. The cost-benefit analysis should include, but not be limited to, assessment of each of the following:
 - the direct pricing of purchases associated with each procurement option (e. g., open competitive solicitation to obtain pricing for a sample of products UMMC typically purchases under the GPO to compare to GPO pricing);
 - the costs of contracting associated with each procurement option, including the staffing costs associated with each procurement option;
 - the beginning-to-end procurement time associated with each procurement option and the effects the time differences may have on the supply chain; and,
 - the oversight costs associated with each procurement option.
2. If UMMC chooses to stay in a GPO, UMMC should consider taking the following steps to increase its oversight of the GPO's performance.
 - UMMC should amend its group purchasing agreement with UHC to include a net costs measurement figure (potentially subject to inflation) for all products purchased under the GPO as opposed to, or in addition to, the cost savings figure that UMMC currently uses to track product savings for products in which savings occur.
 - UMMC should review the prices of products purchased under the GPO to assess where

GPO prices were held steady year-over-year, where product prices increased at the rate of inflation, and where product prices increased at a rate above the rate of inflation.

- UMMC should establish a system to ensure that its group purchasing agreement is successful in delivering lower prices than the market in which UMMC would compete. Such a system would monitor the GPO's performance by comparing the GPO prices for a sample of products purchased through the GPO to market prices available outside the GPO (either via self-contracting, market basket study, or some other means) in order to provide adequate oversight. When comparing product prices, UMMC should compare the net price for products (rather than just unit prices) in order to account accurately for all applicable manufacturer rebates, GPO patronage dividends, or other available discounts that could be tied to the purchase of the product.
- Using the above-referenced sample pricing study as a guideline, UMMC should consider increased opportunities to purchase outside the GPO when financially beneficial.
- As a condition of its GPO contracts, UMMC should require that its GPOs provide it with annual independent audits to ensure that the amount the GPO retains to cover its costs is reasonable and thus that GPO members are maximizing their patronage dividend returns.
- In assessing the value of continued participation in a GPO, UMMC should calculate the value of the GPO's value-added services (net any costs associated with the provision of such services) and the cost avoidance potential resulting from UMMC not having to bid all the products.
- UMMC and UHC should comply with provisions of the contract that require establishing measures of success and benchmarks to track the GPO's progress of goals and objectives. Performance measures (beyond the financial incentives addressed in the contract), including supply chain services, should be developed to measure the success of the GPO under the contract (see Appendix A on page 35).

For example, under the Supplier Diversity Program and Local and Small Business Commitment, a performance measure might be “UHC will work with UMMC to add [X number] of women, minority, small business, and veteran-owned business to UMMC’s list of customized contracts for each product segment in which UMMC procures products under the GPO.” For product standardization, a performance measure might be “UHC will work with UMMC and its clinical and supply chain staff to increase product standardization by reducing product variation within non-clinically preferred categories by [X]%.”

UMMC’s Procurement of Building Automatic Controls Systems

3. UMMC should consider all reasonable alternatives in procuring, operating, and overseeing its building automatic controls system environment for its medical and research facilities. For example, in order to perform such an assessment, UMMC should talk to potential providers about the options available (including sole source, dual source, or multi-source) in terms of supplying the hospital with a technically feasible, cost-effective, secure building automated controls system that meets UMMC’s needs in both the short term and the long term.

Given the capabilities of the potential options, UMMC should conduct a documented risk assessment to determine whether there is an increased risk to patient care by maintaining a multiple-source system. If an increased risk to patient care exists in maintaining a multiple-source system, UMMC should consider whether the increased risk could be adequately addressed through a back-up plan.

UMMC should then conduct a cost-benefit analysis to assess fully the costs associated with maintaining a sole-source system (including the effects of sole-source pricing, the costs of maintaining multiple providers’ parts, and the overlap of such systems) versus maintaining a multiple-source system.

4. While UMMC may only be required to solicit proposals from no less than two contractors for its non-medical and non-research facilities, UMMC should attempt to obtain building

automatic controls systems for the best value, including making an effort to seek proposals from all bidders that meet documented, justified bidding qualifications and which have sought an opportunity to compete to provide UMMC with products or services.

Appendix A: Supply Chain Services Provided by UHC Under the Current Group Purchasing Agreement

As part of the supply chain services package of the group purchasing agreement, UHC, as the primary provider of GPO services to UMMC, provides an array of supply chain services:

- *Value Analysis:* UHC's Value Analysis Program is intended to provide integration of clinical and operational performance and cost reduction initiatives across UMMC's supply chain system while providing a flexible approach that will integrate UMMC's primary distributor of choice clinical and operational performance resources. The Value Analysis Program supports implementation of benchmarking and best practice using UHC Clinical and Operational benchmarking studies, supply chain mini-benchmarking findings, and Operational Data Base for department budgeting, management, and supply chain best practices.
- *Technology Assessments:* UHC's supply chain consultants obtain and submit UMMC data and apply UHC's technology and analytical tools to assist UMMC in maximizing the value of its contract portfolio. For example, UHC utilizes its Spend Analytics Tool to compare a member's purchase history to the UHC contract portfolio to identify contract opportunities, manage letters of participation, track supplier-reported sales, identify conversion and standardization opportunities, review price parity discrepancies,²³ and proactively manage expiring contracts, all at no cost.
- *Supply Chain Consulting:* Under the group purchasing master agreement, UHC provides supply chain consulting to the UMMC team on specific supply chain improvement initiatives, including (a) operations efficiency assessments, (b) inventory management, (c) supply chain organizational structure assessment, (d) supply chain technology integration, and (e) strategic partnerships. As part of the group purchasing agreement, UMMC received \$650,000 in consulting dollars over five years. UMMC also has the ability to use patronage dollars or equity to pay any fees above \$650,000.
- *Supply Cost Evaluation:* Under the Supply Cost Evaluation component of the group purchasing

²³ *Price parity discrepancies* occur when identical products have different prices in different markets.

agreement, UHC combines UMMC's spend history with UHC's Operation Data Base information to provide information on price and utilization to identify opportunities to engage suppliers or change practice/utilization patterns.

- *Supply Chain Dashboard:* UHC's supply chain dashboard is intended to provide UMMC with an executive-level summary to track organizational supply chain performance by facility or department (for as long as UMMC continues to participate in UHC's Operational Database).
- *Marketplace Website:* Under the group purchasing master agreement, UHC provides UMMC with an online catalog and order management tools through Marketplace@Novation.[®] Marketplace@Novation[®] includes (a) real-time data, (b) advanced analytical tools (for both contract and non-contract purchases), (c) cross-reference capabilities, and (d) price verification tools to enable proactive price matching with a limited number of letters of participation. Marketplace@Novation[®] also includes "Heads-Up Display & Alerts," notification of new contracts added to the portfolio, and the ability to activate at both contract and item level. Meanwhile, the "My Catalog" feature of Marketplace@Novation[®] can be customized to fit the UMMC purchasing environment.
- *Clinical Technology Management:* Under the group purchasing master agreement, UHC provides online technology management resources on new and emerging high-impact technology by issuing high-impact briefs, technology reports, drug monographs,²⁴ and drug briefs.
- *Peer Networking:* Under the group purchasing master agreement, UHC provides UMMC with opportunities to engage in peer networking and knowledge sharing among its member academic medical centers. Peer networking opportunities offered by UHC include (a) specialty councils and multidisciplinary task forces, (b) benchmarking studies to provide supply chain best practices, (c) online listserv to connect with other UHC members, (d) web conferences, (e) conference calls, (f) educational meetings, (g) national forums, (h) face-to-face meetings, and (i) email newsletters, updates, and reports.
- *Supplier Diversity Program and Small and Local Business Commitment:* Under the Supply Diversity Program, UHC works with small business, veteran, disabled, and minority businesses to transition

²⁴ A *drug monograph* is a statement that specifies the kinds and amounts of ingredients a drug or class of drugs may contain, the directions for the drug's use, the conditions under which it may be used, and the contraindications to its use.

qualified Small Business Enterprises (SBE) and Local Vendors to the UHC portfolio and support non-UHC qualified SBE and Local Vendors to develop custom contracting with SBE and Local Vendors and mentor those SBE and Local Vendors to become qualified for inclusion in the UHC Portfolio. UHC also cooperates with UMMC to conduct an annual Open House with qualified businesses to seek opportunities and increase access to the UHC portfolio and UHC Custom Contracting.

- *Custom Contracting:* Under the group purchasing master agreement, UHC works with UMMC to provide custom contracting and portfolio enhancements. Custom contracting encompasses all commodities and services, including food service outsourcing.
- *90% Total Product Coverage:* Under the group purchasing master agreement, UHC should provide UMMC with contract portfolios and programs that represent more than 90% total product coverage.
- *Standardization Programs:* UHC's standardization program is designed to reduce variation within non-clinically preferred product categories and increase order efficiency. However, under the group purchasing master agreement, UHC's standardization program should still offer flexibility by providing choice among most frequently used contracts for specific product lines and custom programs. As part of the standardization program, UMMC should receive average rebates of 3% to 6%, managed and tracked by UHC, with 100% of these rebates returned to UMMC quarterly in cash.
- *NOVAPLUS® Private Label:* Novation's Private Label program is intended to provide UMMC with low cost on high quality products covering forty-seven non-pharmacy agreements and thirty pharmacy agreements. Under the NOVAPLUS Private Label program, UMMC should receive: (a) on average, 23% savings over branded products, (b) higher cooperative returns than branded products, (c) access to a dedicated inventory that offers additional protection from drug shortages, and (d) the assistance of a dedicated quality assurance team.

Appendix B: UMMC's Expenditures under the Group Purchasing Agreement with UHC, By Product Segment, for CY 2009 and CY 2010

Product Segment¹	CY 2010 Sales	As a Percentage of CY 2010	CY 2009 Sales	As a Percentage of CY 2009
Anesthesia	\$ 1,183,176	0.9%	\$ 1,191,498	1.2%
Business Products	1,625,112	1.3%	1,755,877	1.7%
Capital Equipment	4,929,478	3.9%	3,392,709	3.3%
Cardiology	10,976,755	8.7%	10,268,594	10.1%
Diagnostic Imaging	4,692,048	3.7%	2,363,498	2.3%
Distribution - Diagnostic Imaging	78,222	0.1%	107,417	0.1%
Distribution - Facilities Management	540,038	0.4%	459,781	0.5%
Distribution - Food and Nutrition	0	0.0%	(72)	0.0%
Distribution - Laboratory	1,862,163	1.5%	1,474,173	1.4%
Distribution - Medical/Surgical	11,187,237	8.8%	9,229,631	9.1%
Distribution - Pharmacy ²	9,249,204	7.3%	11,888,384	11.7%
Distribution - Pharmacy 340B ³	13,420,967	10.6%	761,177	0.7%
Distribution - Radiopharmaceuticals	459,976	0.4%	501,315	0.5%
Facilities Management	1,479,602	1.2%	976,006	1.0%
Food and Nutrition	116,478	0.1%	96,960	0.1%
IV Systems	2,036,056	1.6%	1,457,600	1.4%
Laboratory	3,387,533	2.7%	3,208,234	3.1%
Medical Products	6,933,092	5.5%	6,355,559	6.2%
Medical Research	1,702,137	1.3%	0	0.0%
Orthopedic Products	13,328,443	10.5%	8,617,780	8.4%
Pharmacy	11,217,887	8.9%	12,016,268	11.8%
Plasma Products	3,015,121	2.4%	2,668,597	2.6%
Respiratory	904,426	0.7%	1,519,465	1.5%
Surgical Products	8,664,439	6.8%	7,250,366	7.1%
UHC Contracts ⁴	13,482,488	10.6%	14,397,589	14.1%
Women/Infants/Children	109,586	0.1%	58,187	0.1%
Total	\$126,581,664	100.0%	\$102,016,593	100.0%

Notes to Appendix B:

¹ The term *product segment* is used by UHC to identify similar categories of products. The term *product category* is used by the health care industry to identify similar types of products.

² *Distribution-Pharmacy* includes pharmaceutical drugs that are purchased from a wholesale pharmaceutical distributor instead of directly from the manufacturer. As retail consumers, UMMC does not buy directly from the makers of Tylenol, Neosporin, or NyQuil but instead relies on a one-stop-shop wholesale pharmaceutical distributor for all of its pharmaceutical needs.

³ *Distribution-Pharmacy 340B* is the same as *Distribution-Pharmacy*, but special pricing is set up for 340B participants. Section 340B of the federal Public Health Service Act limits the cost of covered outpatient drugs to certain federal grantees, federally-qualified health center look-alikes, and qualified disproportionate share hospitals.

⁴ *UHC Contracts* includes negotiated custom agreements for mainly professional services not available under the UHC GPO, as well as some occasional product-based custom agreements not available under the UHC GPO.

NOTE: In CY 2010, UMMC had access to 408 different product categories under UHC twenty-seven product segments, 265 of which were utilized by UMMC during CY 2010.

SOURCE: UHC/Novation Contract Utilization Summary Report for University of Mississippi Medical Center SID 37088 - December 2010. Report generated on March 7, 2011.

Appendix C: Bibliography on the Effectiveness of Health Care Group Purchasing Organizations

PEER consulted the following sources regarding the history and effectiveness of group purchasing organizations to develop the discussion on pages 9 through 15 of this report.

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For ease of readability in the report, PEER did not footnote each source consulted in the discussion on pages 9 through 15, but will maintain in its offices a footnoted version of the section that shows complete attribution to the authors and will provide this information to any reader upon request.

Appendix D: Department of Finance and Administration's Energy Management Systems/Mechanical Controls Procurement Policy

PURPOSE

This is written to clarify and standardize procurement procedures for Energy Management Systems on projects managed by the Bureau of Building, Grounds, and Real Property Management. Deviation from this procedure requires prior, written approval for the Director, Bureau of Building, Grounds and Real Property Management.

CONTRACT DOCUMENTS - BID

An allowance for Energy Management Systems will be included in the contract documents for ALL projects without exception. The value of the allowance will be determined by the Design Professional and approved by the Staff Architect. EMS Specifications should be included in the contract documents with clear markings that they are FOR INFORMATION ONLY. The specifications will require the following "MINIMUM" information.

1. Interoperability Requirement: The systems supplied must be Native BACnet or LON compliant. BACnet is preferred, but LON is acceptable if prior written approval is obtained from the Director, Bureau of Building.
2. Points List: A points list must be included as part of the contract documents.
3. Sequence of Operation: A sequence of operations narrative must be included as part of the contract documents.
4. Controls Consultant: The use of a non-vendor controls consultant is highly recommended but not required.
5. Front-End Requirements: The front-end requirements must be clearly defined. The options are:
 - a. Each contractor is to provide, install, and program its own front-end program. The using agency will have two front-end programs resident on a single machine.
 - b. Each contractor will provide signals and data points to the existing facility front-end. In this case, programming will be done by the using agency through an independent contractor. Non-proprietary routers and interface devices will be supplied and installed by the controls contractors. Proprietary routers and interface devices will be

- supplied by the using agency. The using agency will be reimbursed for the contract programming and proprietary device purchases.
- c. Each contractor to provide its BACnet or LON compliant system(s) in the building and not tie-in to a central controller.
 - d. The using agency will make this decision with approval from the Bureau of Building.
6. Submittal Requirements: The submittal requirements (including the need for timely submittals) must be included. Review and approval will be required from the following parties.
- a. Mechanical Engineer
 - b. Cx Authority
 - c. Bureau of Building
 - d. Using Agency

The Energy Management System will be procured and administered by the Mechanical Contractor on the project. Procurement procedures will be as described below.

PROCUREMENT PROCEDURES

Once the General Contract has been awarded, proposals should be solicited from no less than two controls contractors. These contractors may be selected by the using agency with the firm providing the BEST VALUE proposal being selected. If the Using Agency will agree to award based on price only, the BEST VALUE evaluation is not required. If the site currently has two or more acceptable vendors, no additional proposals will be required.

The criteria for BEST VALUE evaluation must be determined prior to the receipt of proposals and must be quantifiable. Subjective evaluations will not be allowed. In addition to a priced proposal for the Energy Management System (with alternates if needed), each contractor should also provide a priced proposal for recommended spare parts and a proposal for an extended warranty period of four years. These are items that will be used in the BEST VALUE determination and executed by the using agency (at their discretion). The using agency will not be reimbursed for these items.

Once received, the bids will be reviewed by the following parties.

1. Using Agency
2. Bureau of Building
3. Design Professional(s)
4. General Contractor
5. Cx Authority
6. Mechanical Contractor

Any interface or performance demonstrations by the contractor will take prior to or during this meeting. Once selected, the contract will be awarded to the approved contractor by the Mechanical Contractor on the project.

EXISTING SYSTEMS

In buildings with existing HVAC control systems, the following procedure shall apply.

1) 25% or less of HVAC System Renovated

Practical, technical considerations make the competitive procurement of controls systems where an existing system is changed by less than 25% non-viable. With required Public Procurement Review Board approval, the renovated controls system can and should be procured via single-source procurement. Approval must be obtained prior to bidding.
{% Change = (Estimated Cost of Renovations, \$)/(Estimated Value of Existing System, \$)}

2) 25% - 50% of HVAC Controls System Renovated

HVAC controls systems being modified by more than 25% and less than 50% may be procured via single source procurement provided that prior approval is obtained from the Director, Bureau of Building and the Public Procurement Review Board. Approval must be obtained prior to bidding.
{% Change = (Estimated Cost of Renovations, \$)/(Estimated Value of Existing System, \$)}

3) More than 50% of HVAC Controls System Renovated

HVAC controls systems being modified by more than 50% should be procured via competitive procurement unless significant technical and economic justification is provided. The justification shall be submitted to Director, Bureau of Building, and the Public Procurement Review Board. Approval must be obtained prior to bidding.
{% Change = (Estimated Cost of Renovations, \$)/(Estimated Value of Existing System, \$)}

SOURCE: Department of Finance and Administration's Bureau of Building, Grounds, and Real Property Management.



Agency Response

THE UNIVERSITY OF MISSISSIPPI
MEDICAL CENTER

Office of the Vice Chancellor
for Health Affairs

2500 North State Street
Jackson, Mississippi 39216-4505
(601) 984-1010

July 28, 2011



Max K. Arinder, Ph.D.
Executive Director
Joint Committee on Performance Evaluation and Expenditure Review
P.O. Box 1204
Jackson, MS 39215-1204

Dear Dr. Arinder:

Thank you for the opportunity to respond to the PEER Committee's draft report, "An Analysis of Selected Procurement Decisions of the University of Mississippi Medical Center". Please see attached our response to the recommendations proposed. Should you need further information, please do not hesitate to contact my office.

Best regards,

James E. Keeton, MD
Vice Chancellor for Health Affairs and
Dean, School of Medicine

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Recommendations

1. UMMC should identify and consider all reasonable alternatives in procuring products and managing its supply chain. UMMC's decision to move forward should be based on a cost-benefit analysis that fully assesses and documents UMMC's supply chains and the cost and benefits of each proposed supply chain solution. The cost-benefit analysis should include, but not be limited to, assessment of each of the following:
 - the direct pricing of purchases associated with each procurement option (e.g., open competitive solicitation to obtain pricing for a sample of products UMMC typically purchases under the GPO to compare to GPO pricing);
 - the costs of contracting associated with each procurement option, including the staffing costs associated with each procurement option;
 - the beginning-to-end procure time associated with each procurement option and the effects the time differences may have on the supply chain; and,
 - the oversight costs associated with each procurement option.

Response: The University of Mississippi Medical Center (UMMC) has the responsibility to be good stewards of the State of Mississippi's money. As such, MS Code Ann §§ 37-115-31 and 31-7-38 authorize UMMC to enter into group purchasing arrangements when deemed reasonable and necessary by UMMC in order to improve the economy and/or efficiency of its operations. 94% of all academic medical centers have entered into the University HealthSystem Consortium (UHC)/Novation Group Purchasing Organization. By joining this GPO, UMMC is able to realize the benefits that other academic medical centers enjoy. UHC/Novation has 1032 contracts within its GPO which entail 5.5 million products in its Product Master, and by UMMC being a part of the GPO, it has access to this Product Master. The UHC/Novation contracting process is open and based on the ABA Model Procurement Code. The contracting decisions are based on the "lowest best bid" approach, taking into account both financial and non-financial criteria. (The non-financial criteria are unique to each product category.)

By utilizing the GPO, UMMC saves the expense of additional employees that it would take to operationalize the bid process, if appropriate, for the approximately 558 contracts that are under current GPO contracts. Anticipating that it would take at least one Senior Contract Analyst and one Junior Contract Analyst to complete the Request for Proposal (RFP)/bid process, UMMC is saving at this time approximately \$161,200 (salaries plus benefits). The use of a GPO also provides immeasurable value added services by saving in the areas of product category specialists which would be required in addition to the contract analysts, recruitment costs, training costs and annual costs to support a self-contracting model. Furthermore, the self-contracting process would add at least 45 days to the supply chain pipeline. UMMC would need to increase its inventory by no less than \$6 million to support that lead time and lease an offsite warehouse, thereby increasing the cost of internal logistics and transportation. By aggregating purchasing volume, the GPO possesses the leverage to negotiate discounts with manufacturers, distributors and other vendors, and provide rebates. This combination of overall savings determined on a market basket basis, negotiating leverage, contracting infrastructure and value added services are determining factors in whether the utilization of a GPO is reasonable and necessary.

The Contract Administration Office at UMMC, under new management, will continue engaging in a cost-benefit analysis and assessing procurement and oversight costs in its procurement processes.

2. If UMMC chooses to stay in a GPO, UMMC should consider taking the following steps to increase its oversight of the GPO's performance.
 - UMMC should amend its group purchasing agreement with Novation/UHC to include a net costs measurement figure (potentially subject to inflation) for all products purchased under the GPO as opposed to, or in addition to, the cost savings figure that UMMC currently uses to track product savings for products in which savings occur.
 - UMMC should review the prices of products purchased under the GPO to assess where GPO prices were held steady year-over-year, where product prices increased at the rate of inflation, and where product prices increased at a rate above the rate of inflation.
 - UMMC should establish a system to ensure that its group purchasing agreement is successful in delivering lower prices than the market in which UMMC would compete. Such a system would monitor the GPO's performance by comparing the GPO prices for a sample of products purchased through the GPO to market prices available outside the GPO (either via self-contracting, market basket study, or some other means) in order to provide adequate oversight. When comparing product prices, UMMC should compare the net price for products (rather than just unit prices) in order to account accurately for all applicable manufacturer rebates, GPO patronage dividends, or other available discounts that could be tied to the purchase of the product.
 - Using the above referenced sample pricing study as a guideline, UMMC should consider increased opportunities to purchase outside the GPO when financially beneficial.
 - As a condition of its GPO contracts, UMMC should require that its GPOs provide it with annual independent audits to ensure that the amount the GPO retains to cover its costs is reasonable and thus that GPO members are maximizing their patronage dividend returns.
 - In assessing the value of continued participation in a GPO, UMMC should calculate the value of the GPO value-added services (net any costs associated with the provision of such services) and the cost avoidance potential resulting from UMMC not having to bid all the products.
 - UMMC and Novation/UHC should comply with the provisions of the contract that require establishing measures of success and benchmarks to track the GPO's progress of goals and objectives. Performance measures (beyond the financial incentives addressed in the contract), including the supply chain services, should be developed to measure the success of the GPO under the contract.

Response: UMMC will take PEER's recommendations and continue to focus on ensuring that its GPO is a reasonable and necessary selection by assessing its value and reviewing performance measures. UMMC will continue to examine and develop its existing performance workplan to incorporate the PEER Committee's recommendations.

UMMC'S PROCUREMENT OF BUILDING AUTOMATIC CONTROLS SYSTEM

3. UMMC should consider all reasonable alternatives in procuring, operating, and overseeing its automatic controls system environment for its medical and research facilities. For example, in order to perform such an assessment, UMMC should talk to potential providers about the options available (including sole

source, dual source, or multi-source) in terms of supplying the hospital with technically feasible, cost effective, secure building automated control system that meets UMMC's needs in both the short-term and the long-term.

Given the capabilities of the potential options, UMMC should conduct a documented risk assessment to determine whether there is an increased risk to patient care by maintaining a multiple-source system. If an increased risk to patient care exists in maintaining a multiple-source system, UMMC should consider whether the increased risk could be adequately addressed through a back-up plan.

UMMC should then conduct a cost-benefit analysis to assess fully the costs associated with maintaining a sole-source system (including the effects of sole-source pricing, the costs of maintaining multiple providers' parts, and the overlap of such systems) versus maintaining a multiple-source system.

Response: Prior to this PEER review, UMMC hired an engineering firm to conduct a risk analysis and cost-benefit study relating to sole-source versus multiple source systems, a part of which entailed surveys of a total of ten (10) academic medical centers. In conjunction with this PEER review, UMMC conducted a more in-depth risk assessment and detailed cost-benefit analysis based on the expertise and experience of both its internal staff and outside consultants, including architectural engineers and experts in the areas of life safety and risk management. After the surveys, risk assessment (including a failure mode analysis with response times) and cost-benefit studies were conducted, the determination was made that the failure risk associated with a multiple system is at least three times higher than the risk associated with a sole-source system. As the state's only Level I Trauma Center and based upon its role as a critical participant in the state's emergency management response plan, UMMC experts and outside consultants determined that the risk associated with multiple systems in life-safety medical and research areas was too high. These results were reviewed and analyzed by UMMC's Risk Management and Environmental Health and Safety Committees, both of which unanimously voted on a sole-source system in the critical life-safety medical and research areas.

4. While UMMC may only be required to solicit proposals from no less than two contractors for its non-medical and non-research facilities, UMMC should attempt to obtain building automatic control systems for the best value, including making an effort to seek proposals from all bidders that meet documented, justified bidding qualifications and which have sought an opportunity to compete to provide UMMC with products or services.

Response: UMMC has sought to ensure that it obtains building automatic control systems for the best value by following all statutory and regulatory requirements. In addition to complying with all legal requirements in its procurement processes, UMMC sought the review and advice of the Mississippi Department of Finance and Administration (DFA) when making procurement decisions. UMMC complied with DFA's suggestions and recommendations, as well as the PEER Committee's recommendations in its October 29, 2009 report titled "Bidding Practices at the University of Mississippi Medical Center." By following all legal requirements, and seeking the additional advice and input of DFA, UMMC is ensuring the appropriate and most beneficial procurement of its building automatic control systems.

PEER Committee Staff

Max Arinder, Executive Director
James Barber, Deputy Director
Ted Booth, General Counsel

Evaluation

David Pray, Division Manager
Linda Triplett, Division Manager
Kim Cummins
Matthew Dry
Brian Dickerson
Lonnie Edgar
Barbara Hamilton
Matthew Holmes
Kevin Mayes
Angela Norwood
Jennifer Sebren
Julie Winkeljohn

Editing and Records

Ava Welborn, Chief Editor/Archivist and Executive Assistant
Tracy Bobo

Administration

Rosana Slawson
Gale Taylor

Information Technology

Larry Landrum, Systems Analyst

Corrections Audit

Louwill Davis, Corrections Auditor