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SYMPOSIUM: VALUE BASED HEALTHCARE

Value-based Purchasing of Medical Devices

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Abstract

Background Health care in the United States is known for its continued innovation and production of new devices and techniques. While the intention of these devices is to improve the delivery and outcome of patient care, they do not always achieve this goal. As new technologies enter the market, hospitals and physicians must determine which of these new devices to incorporate into practice, and it is important these devices bring value to patient care. We provide a model of a physician-engaged process to decrease cost and increase review of physician preference items.

Questions/purposes We describe the challenges, implementation, and outcomes of cost reduction and product stabilization of a value-based process for purchasing medical devices at a major academic medical center.

Methods We implemented a physician-driven committee that standardized and utilized evidence-based, clinically sound, and financially responsible methods for introducing or consolidating new supplies, devices, and technology for patient care. This committee worked with institutional finance and administrative leaders to accomplish its goals.

Results Utilizing this physician-driven committee, we provided access to new products, standardized some products, decreased costs of physician preference items 11% to 26% across service lines, and achieved savings of greater than $8 million per year.

Conclusions The implementation of a facility-based technology assessment committee that critically evaluates new technology can decrease hospital costs on implants and standardize some product lines.

Introduction

Health care in the United States is known for its continued innovation and production of new devices and techniques intended to improve the delivery and outcome of patient care. Part of this innovation is the rapid development and introduction of implants and devices. As new technologies enter the market, hospitals and physicians must determine which of these new devices they should incorporate into practice. Traditionally, the decision to use a new technology is based on the desires of the physician and the added benefit to patient care, with its financial impact often a secondary consideration. However, given cost constraints, it is important for key players to have an understanding of the value of new technology used in practice.

Orthopaedic surgery, neurosurgery, interventional cardiology and radiology, and cardiothoracic surgery are the biggest users of medical devices and technology. Hospitals refer to medical devices, such as hip and knee implants, cardiac stents, cardiac pacemakers, cardiac valves, and

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Each author certifies that his or her institution approved or waived approval for the reporting of this case and that all investigations were conducted in conformity with ethical principles of research.
This work was performed at the Vanderbilt Orthopaedic Institute Center for Health Policy.

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spinal implants, as physician preference items. Physician preference items account for ⅓ of hospital supply costs and are rising [14]. Additionally, 30% to 80% of the reimbursement a hospital receives for procedures using these implants is consumed by implant costs [14]. In orthopaedic surgery alone, hip and knee prostheses cost hospitals $11 billion in 2004 and cost Medicare $5 billion in 2005 [17]. As noted above, physician preference items account for a large portion of the expense for hospitals, and if hospitals do not address this problem, many institutions will find it difficult to provide services that require physician preference items.

To understand the value of a new technology, one must define value. *The Merriam-Webster Dictionary* defines value as "a fair return or equivalent in goods, services, or money for something exchanged" [10]. Furthermore, this dictionary defines quality as superiority in one kind of merchandise compared to another [10]. However, defining quality in medical care is challenging. To define value in another way, one can use the equation: value equals quality divided by cost. Using this equation, one can increase value by either increasing quality while keeping cost the same, decreasing cost while keeping quality the same, or a combination of the two. Therefore, as one evaluates the use of new technologies, it is important to determine whether or not there is added value to using the new technology. Value-based purchasing attempts to assess the added value for physician preference items by linking payment more directly to the quality and efficiency of a new technology regarding patient care [13]. Assuming one can maintain quality by maintaining products and physician choice, this principle can be applied to medical device purchasing by decreasing the cost of implants without changing the implant. An example of value-based purchasing in orthopaedics would be a situation in which surgeons are able to use total joint implants that they are currently using at a lower cost, thereby increasing the value of the implant.

Several key components are necessary to have true value-based purchasing of medical devices. These include having research and third-party information on new technology, market costs for similar devices, aligning the incentives of the key players, physician leadership, and organizational capability [14].

We therefore describe the challenges, implementation, and outcomes of a physician-driven process for technology utilization in patient care.

Challenges

Hospitals face several challenges when attempting to implement a value-based approach to the purchasing of medical implants and devices. First, the incentives and interests of hospital and physicians are often not the same. It is possible to align the incentives; an innovative financial arrangement that aligns incentives for physicians and hospitals can alter physician behaviors [9]. Physicians often choose implants, yet the financial obligation is on the hospital. This is not a problem if the physician chooses a device through a contracted vendor for a predetermined price. However, without a predetermined contract, the risk to the hospital can be substantial to pay the full list price. Even with improved contracting, hospitals may still face difficulty in profiting on certain procedures since the gap between implant costs and reimbursement received has increased. From 1991 until 2008, Medicare reimbursement for joint prostheses increased 27% while the average price of a total hip implant rose at least 132% [17]. One way to align the interests of the physician and the hospital is for them to participate in some sort of gainsharing: the physician and the hospital share financial savings from collaboration [7, 16]. Gainsharing does not necessarily mean the physician receives monetary benefit because of savings that resulted from the collaboration. In fact, the obligatory documentation required to meet federal requirements may not be worth the effort, especially in institutions with limited resources [2]. Currently, hospitals and physicians that pursue monetary gainsharing risk federal investigation until legal precedent is set. Rather, hospitals can reinvest a portion of the savings in resources of operating room time, personnel, capital, or research funding.

The second challenge that hospitals face is established physician and industry relationships. A physician may have a financial interest in the company, either from royalties, stock options, consulting fees, or speaking engagements. These relationships have received a great deal of scrutiny recently due to out-of-court settlement between orthopaedic device manufacturers and the US Department of Justice for $310 million [3]. The ruling focuses on payments to surgeons from these manufacturers directly tied to implant utilization patterns and deemed to be kickbacks [3]. Physicians may also have loyalty to a company's implants because of their habits from training or practice [12]. Finally, the physician may have a personal relationship or loyalty to a company's representative or rely on the representative to provide a level of technical support during the procedure. Some hospitals have begun to adopt stricter conflict of interest policies in an attempt to identify these relationships, as well as starting programs that provide oversight on the appropriate role of the representative during a procedure [14]. Hospitals can also train employed staff adequately, instead of relying on an individual incentivized based on sales.

A third challenge with medical devices is a lack of price transparency that leads to price inflation. Hospitals are

often contractually bound not to disclose pricing of products. In fact, medical device companies have successfully sued to prevent the sharing of pricing information by third parties contracted with hospitals [8]. This nondisclosure clause is estimated to affect 60% of the $112 billion cost of all medical devices [8]. However, hospitals have the ability to exclude these types of clauses. If price disclosure was open, hospitals would have a stronger bargaining position because it allows hospitals to make better informed judgments and negotiate lower prices. However, some believe the lack of price transparency may not be the reason for higher prices for medical implants and disclosing prices will actually result in higher pricing [4, 15]. In fact, the US Federal Trade Commission notes disclosure in the pharmaceutical industry may increase consumer prices by having the unintended consequence of limiting competition and increasing the cost of pharmaceuticals [15]. Furthermore, Hahn et al. [4] believe mandatory price disclosure for implantable devices is unlikely to pass a benefit-to-cost test. They argue disclosure will not decrease cost because price disclosure may actually facilitate collusion in a concentrated industry, keeping prices of implants high. Hospitals have attempted several techniques to address implant pricing [14]. One is to limit the number of vendors allowed into a hospital setting. In theory, this gives hospitals more control and bargaining ability with a single company, but a recent study shows a predictor of higher pricing is fewer implant companies, and limited vendors may result in limited discount pricing [14]. Another proposed solution is to allow any vendor into the hospital, but all vendors must agree to charge a fixed price for similar implants. The problem with this solution is that vendors may substitute inferior implants or may persuade the physician to use an implant outside the price-controlled category (upcharge the device), resulting in a higher cost to the hospital. Finally, hospitals may negotiate a percent discount off the list price on all implants; however, this technique encourages inflation of list prices or the substitution of inferior implants unless the list price is set for a period of time.

A fourth challenge is the introduction of new technologies into patient care without any evidence of improved outcomes (ie, high flexion or sex-specific TKA implants). Most new implants are brought to market via the US Food and Drug Administration's (FDA) 510(k) process, which requires a company to demonstrate only equivalency, not superiority, of an implant or device [5]. In fact, most have no performance data, and the published data are often based on Level IV evidence [11]. The Institute of Medicine states the 510(k) process is fatally flawed and the FDA needs to develop new product approval and monitoring processes [5]. Furthermore, most institutions have no process in place to evaluate the outcome or efficacy of new technology. Hospitals need to overcome this challenge by developing the organizational capacity to evaluate and respond to changes in technology to assess the potential cost and quality of innovative products. Such a facility-based technology assessment committee can evaluate new technologies to determine whether current evidence suggests the innovation is better than the current practice [1]. In a 2006 survey sponsored by the Integrated Healthcare Association, only 55% of hospitals that responded had a facility-based technology assessment committee that evaluated new technologies [6]. It is important such committees have physician members who can evaluate the product on a clinical basis and provide leadership to implement change within the hospital.

Implementation of a Facility-based Technology Assessment Committee

We implemented a facility-based technology assessment committee (the Medical Economic Outcome Committee [MEOC]) in August 2008. Before this committee's founding, the manner in which new devices were allowed into the institution involved a process in which a committee consisting of nursing staff and administrators decided on new devices without physician representation. Often, personal relationships influenced the approval of new devices with no regard to conflicts of interest. This led to a dysfunctional system prone to political favors, nontransparent relationships, and driven by "squeaky wheels." It was not responsive to the needs of the physicians or the institution. Physicians proposed a new process that included oversight by peers for introduction of new products and technologies. They believed the establishment of the facility-based technology assessment committee would benefit the institution by controlling costs and increasing physician engagement in the decision process of new products and technology.

The MEOC's mission and vision statement was "a clinician-driven process that standardizes and utilizes evidence-based, clinically sound, financially responsible methodologies for introduction or consolidation of new supplies, devices and technology within the medical center to provide the highest quality of patient care" (Appendix 1). The institution created two committees, one compromised of faculty from the surgical subspecialties and the other of faculty from radiology, cardiology, and cardiovascular subspecialists from both the adult and pediatric facilities, as well as senior administrators. Physicians were recruited by physician leaders who developed the committees or nominated by surgical chairs. The intent of the committee composition was to have physicians who were clinically active and

understood evidence-based medicine processes. Each committee met monthly and consisted of 10 physicians and six administrators.

The goals, as outlined by the process, were clinical and financial. Clinical goals included facilitating the adoption of safe and efficacious healthcare technologies to improve patient care, developing a capital assessment process that was transparent, as well as data and strategy driven, and finding new and innovative ways to impact healthcare delivery and costs. Financial goals consisted of evaluating the cost-effectiveness and financial impact of new healthcare technologies and physician preference items, empowering clinicians to standardize procedures, identifying reimbursement for new healthcare technologies before their introduction, improving the institution's capital budget, and utilizing benchmark data to compare financial outcomes (Appendix 1).

Individual physicians desiring to utilize a new product submitted requests via an online electronic form as either trial or permanent requests (Appendix 2). A conflict of interest disclosure statement was present on the form and required to be completed. However, if a physician disclosed a conflict, it did not preclude them from requesting the product. For a trial request, a short description of the physician preference items was included, as well as the physician champion's input on its cost-benefit and potential benefits. Committee members received the request and could approve a short-term request of a trial product. The product had to be FDA approved and cost neutral, with no negative contractual effects on existing contracts. Essentially, the committee has approved 95% of trial requests in the 3 years since its creation.

If a physician requested permanent access to a physician preference items item before or after a trial request, more in-depth information was required. A physician presented the improvement in the outcomes to current products. Pertinent peer-reviewed articles were distributed before the committee meeting. The committee also obtained information from external sources that provided third-party evaluation of products (see www.ecri.org and www.advisory.com). Physicians used the peer-reviewed articles and third-party opinions on products to assist in decision making. The supply chain analytics team also provided information on potential utilization and the effect on contribution margin and net margin, as well as existing contracts.

The intent was that the financial metrics were not the only or most important metric. Obviously, the committee considered the financial impact but also considered the marketing and innovation advantages, patient outcomes, and research potential. After a physician champion's presentation concluded, there was an open exchange of questions of the committee members to the physician champion. The committee did not allow industry representatives to be present. The committee then had a closed-door discussion and voted on product acceptance, with a majority required for adoption of new technology or physician preference items. In the event any committee member disclosed a conflict, the committee member could participate in the discussion but could not participate in final vote. The committee could grant full approval, reject the proposal, or approve with stipulations. Stipulations included temporary approval for 6 months to 1 year with a requirement that the requestor return to the committee to present clinical outcomes and have the product reevaluated. Another stipulation for approval could have been the product was cost neutral and did not impact contracts. In the past 2 years, the committee approved 92% of products presented, approved 5% with stipulations, and rejected 3%.

If the physician champion was unhappy with the committee's decision, he/she could file a formal appeal with the steering committee (Appendix 3), which oversaw both committees. The steering committee was comprised of administrative leaders, the chairpersons of the committees, and institutional leaders. The steering committee reviewed an appeal and, if new information was available or there was a misperception of some kind, could ask the chair of the respective committee to revisit the product at its next meeting. The steering committee could not overturn the committee's decision. Since inception of this process, no decision has been overturned.

The facility-based technology assessment committees also worked to improve implant pricing. Technology assessment committees undertook focused initiatives of physician preference items in surgical endomechanical stapling devices, orthopaedic joint arthroplasty, spine internal fixation, trauma internal fixation, cardiac rhythm management implants, drug-eluting stents, and cardiac

Table 1. Strategy used and savings realized after implementation of MEOC

Physician preference item	Savings	Percentage	Strategy used
Endomechanical	$732,545	26%	Standardization
Total joints	$2,561,991	38%	Price matrix
Cardiac rhythm management	$1,590,396	16.5%	Price matrix
Drug-eluting stents	$454,044	11.4%	Standardization
Spine	$1,895,110	25%	Price matrix
Interventional cardiology	$1,111,050	21%	Standardization
Cardiac surgery	$60,820	2.5%	Price matrix
Trauma	$1,071,479	24%	Consolidation
Abdominal mesh	$604, 000	29%	Consolidation

MEOC = Medical Economic Outcome Committee.

valve implants (Table 1). The process selected for contract negotiation varied based on the product category. Endomechanical stapling devices were approached using an either/or Vendor A or Vendor B approach. After a trial of several products by the physicians who would be affected, a single source vendor was approved and continues to be under contract. The institution purchased items not available by the selected vendor and without equivalent at a higher negotiated price.

Total joint arthroplasty implants maintained physician choice while achieving considerable savings. Strong physician support of the process led to matrix pricing. Primary joints were negotiated at a set price. Any vendor could provide implants at this price. An outside consultant with national data on similar institutions advised on negotiating this set price by providing a range of negotiating prices that would be commensurate with current market pricing.

The institution undertook a similar matrix process for spine implants. The actual total number of vendors increased from four to nine spine vendors who met bid requirements. The vendor with the largest market share (48%) before this process did not meet contract terms and the institution excluded them for a 90-day period. Again, strong physician support and leadership were essential to accomplishing this. After 90 days, the institution allowed the vendor to come in at the prior negotiated contract pricing but attempted to insert nondisclosure language into the contract. The hospital rebuked this action and crafted language to allow for benchmarking. A substantial decrease in market share returned to that vendor.

Cardiac rhythm management also undertook a matrix pricing at the component level strategy but took it one step further by implementing internal control. Physicians utilized a particular device based on clinical criteria. Additionally, the institution realized an improvement in the pricing for trauma implants, reducing the number of vendors from seven to two, and also decreased the average number of stents per case.

Assessment of Physician-driven Committee

The system outlined above was beneficial in two ways. First, the institution was able to achieve considerable savings in the above-mentioned categories. Prices fell 11% to 26% (Table 1) from initial costs, resulting in a total savings of $8.7 million per year for the last 2 years. More importantly, it also allowed for a collaborative and transparent approach on decision making in the contracting and procurement process that did not previously exist. Development of this relationship was key and set the stage for the committees to engage in the next level of opportunities that focus on utilization and peer-to-peer benchmarking.

Discussion

As healthcare costs continue to increase, we must review products and new technologies in an objective manner to ensure there is a rationale and/or added value for utilization. We therefore describe the challenges, implementation, and assessment of a physician-driven process for technology utilization in patient care.

Our paper is subject to a number of limitations. First, we describe the experience of only one institution. Each institution has its own challenges in physician alignment, history, and culture. Each institution's process will be unique to its individual characteristics. Second, our institution is an academic setting with closely aligned faculty and hospital. Academic practices that are not directly affiliated with the hospital and community hospital with community-based surgeons will have to establish a mechanism to partner with each other for mutual benefit. Third, our institution established the committee a short time ago, and we cannot describe long-term effects of the process. Finally, while we do believe other institutions could reproduce this process, we cannot guarantee the reproducibility of the effects of our committee at other institutions. Each institution will need to develop and modify the described process to fit the culture, history, and geography of their situation.

Challenges to this process include lack of alignment of incentives, physician industry relationships, lack of price transparency, and new technologies that do not result in clinical improvement. We implement a physician lead process that utilizes peer-reviewed articles and external benchmarking to improve pricing and maintain quality of physician preference items. The use of facility-based technology assessment committees, centralized councils to review new technologies, and national registries evaluating outcomes of new technologies are all important in this process. Furthermore, as healthcare delivery and reimbursement evolve in the coming years, it is important for hospitals and physicians to work together to ensure the care delivered is of the highest quality and best value. With the potential implementation of a pay-for-performance model and/or an accountable-care organization, the focus will be even higher on resource utilization to include peer-to-peer benchmarking, looking at both cost and quality indicators. In summary, the successes and outcomes of this process are (1) development of a rational system of product and new technology acquisition, (2) increased access to surgeons of products and technology based on peer review, (3) 95% approval rate of new product, (4) understanding impact on contracting before acceptance of new products and technology, and (5) greater than $8 million in cost savings on physician preference items per year for the institution.

Appendix 1

Medical Economic Outcomes Committee
(MEOC)

COMMITTEE CHARTER

Mission and Vision: A clinician driven process that standardizes and utilizes evidence-based, clinically sound, financially responsible methodologies for introduction or consolidation of new supplies, devices and technology within Vanderbilt University Medical Center to provide the highest quality.

Description: MEOC Committees will be comprised of subspecialty representatives who will be responsible for evaluating new product and device requests from within their peer group, or by request from the MEOC Executive Committee, as well as addressing identified opportunities in standardization, utilization or pricing obtained through internal/external analysis and benchmarking.

MEOC Committee Composition:	HTAC Committee Composition:
*Physician Co-Chairs	*Physician Chair
*Physician Members, Subspecialties	*Supply Chain Medical Directors
*Supply Chain Officer	*Supply Chain Officer
*Clinical Administrator of Service Line	*Financial Liaisons, VUH & VCH
*Medical Sourcing Officer	*Capital Sourcing Officer
*Financial Liaison	*Purchasing Agent
Supply Chain Analytics	*Administrators (ad hoc)
	*Physicians (ad hoc)

**Voting Members*

Tenure: Physicians serve 2 year terms. Non-physician members have no term limits.

Compensation: Participation at the physician level will be on a volunteer level/designee basis.

Process: The MEOC Committees will evaluate each product/device request utilizing internal and external benchmark data as it relates to outcomes, quality and financial impact. Elements considered are to include but not limited to: evidenced based medicine reporting clinical outcomes, existence of like technology, existence of a current contract, proposed pricing, impact to overall cost per case, impact to operational expense, impact to revenue, impact to quality indicators such as decreased LOS, decreased mortality/morbidity and impact to the community.

New Product Request Procedure: The requesting physician must be physically present at the meeting. No designees will be accepted. Failure to attend will result in the item being removed from the agenda until the physician resubmits. If the request is for a capital purchase, a secondary signature from the financial liaison of the effective facility is required prior to presentation to validate available funding. No vendors are to be present nor can one present.

Conflict of Interest / Confidentiality Statement: All committee members and requesting physicians must sign and comply with Vanderbilt policy. If a MEOC Committee member has a conflict of interest, he or she may be present for discussion but not participate in the vote.

Attendance Requirements: Members are expected to attend all meetings. The Chair will contact members failing to attend meetings. Members failing to attend 50% of the scheduled meetings will be replaced following notification.

Quorum: A quorum is defined as fifty percent.

Meetings: MEOC Committees will meet at least monthly unless the volume warrants a decreased frequency.

Reporting Structure: MEOC Committees will report to the MEOC Executive Committee. Each Committee will provide a report of its actions and recommendations in presentation form by a selected member of the Committee to the MEOC Executive Committee.

Decision Making / Authority:

MEOC Committees will make approval or denial recommendations to the MEOC Executive Committee for a final review if the request meets any of the following criteria:

1. New technology is based on evidence based medicine and
2. Effects standardization or compliance with an existing contract, or
3. Impacts operational expense by >20% on a cost per case basis, or
4. New technology requires physician re-credentialing or has cross-departmental impact

Cost is not the sole consideration: the new technology may increase overall operational expense or decrease revenue, but has what is believed to be a significant clinical or community benefit.

MEOC Committees will have the ability to approve, deny or suggest a clinical evaluation of a new product/device if the following criteria are met:

1. Outcome data supports or refutes the superiority of propose product (when comparable product is currently being used)
2. It is cost neutral or lower than existing pricing
2. It has no impact to an existing contract
3. There is no comparable technology on the market
4. There is funding available within the department to purchase

Appeal Process: Physicians wishing to appeal a decision of the MEOC Committees must submit a detailed communication describing the reason for the appeal along with supportive literature and/or data to the MEOC Executive Committee. The MEOC Executive Committee, or designated member(s), will review these materials and determine if the appeal is based on new and/or previously excluded information. A

decision to entertain the appeal will only be granted to those who have submitted new and/or previously excluded information.

- If the MEOC Executive Committee denies appeal, the request for new product is terminated.
- If the MEOC Executive Committee is in favor of appeal, the request is forwarded back to the MEOC Committee for reconsideration.

Review of the Charter: The charter will be reviewed annually at the last meeting of the calendar year and as changes occur that would affect the operation of the Committees.

Appendix 2

PHYSICIAN REQUEST FOR INTRODUCTION EVALUATION OF NEW PRODUCT OR TECHNOLOGY

DEADLINE for submission is one month prior to committee meeting.

PHYSICIANS complete this section: **Date Submitted: / /**

Requesting Physician: (please print)_____
Email Address:_____
Name of Product:_____
Vendor/Company:_____
Rep's Name:_____ **Phone #:**_____
This product will be used for: (specify cases/procedure/test)_____
_____
Briefly describe use:_____
_____

THIS PRODUCT:

____ A. Is NEW technology which is more advantageous for patients than current technology which is:_____
____ B. COULD REPLACE current product or technology such as:_____
____C. Is used as an ADJUNCT to current technology/treatments which are:
_____

THIS PRODUCT WILL POSITIVELY IMPACT PATIENT OUTCOMES BY:

____ A. Reducing length of stay by _____ day(s)
____ B. Decreasing OR/procedure time by _____minutes
____ C. Reducing costs by $_____
____ D. Decreasing likelihood of additional procedures/equipment such as:_____

REQUESTION PHYSICIAN DISCLOSURE RELATED TO THIS PRODUCT OR VENDOR:

____ Participates in clinical research
____ Receives funding for research
____ Member of Speakers Bureau
____ Receives patent royalties
Investor or Owner _____
Financial Incentives _____
None _____

Comments/Additional Information:_____
_____

"I certify to the truth and accuracy of all statements, answers and representations made on this form."

FUNDING:

"I hereby certify that operational dollars are available to support a clinical evaluation with the intent to purchase or the release of capital dollars to fund this acquisition."

Signature:_____
Printed Name:_____
Title:_____

Physician Request for Introduction Forms **are maintained by Support Services Administration. To request a form, contact Jennifer Causey at 3-0181 or jennifer.causey@vanderbilt.edu. Submit completed forms electronically or deliver to the following:**

Medical Center Support Services
ATTN: Jennifer Causey
TVC B705

Appendix 3

Medical Economic Outcomes Committee
(MEOC)

EXECUTIVE COMMITTEE CHARTER

Mission and Vision: Ensure evidence-based, clinically sound, financially responsible action plans are developed for the safe and effective use of supplies, devices and technology within Vanderbilt University Medical Center.

Description: MEOC Executive Committee is a medical staff and administrative committee with multidisciplinary representation. It is responsible for assessing opportunities to maximize appropriate supply and technology use.

Composition: Membership will consist of representatives from medical staff, finance, materials and administration as well as other clinical practice groups as appropriate. The chairman of the committee can make ad hoc appointments when necessary. Voting membership includes members of the standing committee only.

Membership / Tenure: Members will be recommended by the Supply Chain Officer and approved by the Clinical Enterprise Executive Committee (CEEC). There is no limit on the number of years a member may serve.

Process: MEOC Executive Committee will prioritize, at a minimum quarterly, a list of recommended opportunities for both the MEOC Committees and Pharmacotherapy Committee to consider. This opportunity list will center on areas to reduce variation and provide better outcomes with reduced costs. Opportunities can also be brought to these committees by physicians and/or departments for consideration.

Decision Making / Authority: Carried motions require a majority vote of the overall voting members in attendance.

Reporting Structure: MEOC Executive Committee will report to CEEC. The committee will provide a report of its actions and decisions to CEEC in the form of an executive summary.

Responsibilities: MEOC Executive Committee has the following responsibilities:

1) Identify opportunities to reduce variation and cost
2) Conduct market place assessments (internal and external)
3) Final approval / denial of MEOC Committee recommendations
4) Appoint MEOC Committee members
5) Hear appeals, if required, from the MEOC Committees

Meetings: MEOC Executive Committee will meet as needed.

Review of the Charter: The charter will be reviewed annually at the last meeting of the calendar year and as changes occur that would affect the operation of the committee.

References

1. Chalkidou K, Lord J, Fischer A, Littlejohns P. Evidence-based decision making: when should we wait for more information? *Health Aff (Millwood).* 2008;27:1642–1653.
2. Dirschl DR, Goodroe J, Thornton DM, Eiland GW. AOA Symposium. Gainsharing in orthopaedics: passing fancy or wave of the future? *J Bone Joint Surg Am.* 2007;89:2075–2083.
3. Feder BJ. Artificial joint makers settle kickback case. *New York Times.* September 28, 2007.
4. Hahn RW, Klovers KB, Singer HJ. The need for greater price transparency in the medical device industry: an economic analysis. *Health Aff (Millwood).* 2008;27:1554–1559.
5. Institute of Medicine. *Medical Devices and the Public's Health: The FDA 510(k) Clearance Process at 35 Years*. Washington, DC: The National Academies Press; 2011.
6. Integrated Health Care Association. Integrated healthcare association medical device value assessment and purchasing (VAP) project: summary report on pilot project, 2006–08. Available at: http://www.iha.org/pdfs_documents/medical_device/FINAL_VBP2006OCPilotSummaryReport_11.04.09.pdf. Accessed September 29, 2011.
7. Ketcham JD, Furukawa MF. Hospital-physician gainsharing in cardiology. *Health Aff (Millwood).* 2008;27:803–812.
8. Lerner JC, Fox DM, Nelson T, Reiss JB. The consequence of secret prices: the politics of physician preference items. *Health Aff (Millwood).* 2008;27:1560–1565.
9. Marcus RE, Zenty TF 3rd, Adelman HG. Aligning incentives in orthopaedics: opportunities and challenges—the Case Medical Center experience. *Clin Orthop Relat Res.* 2009;467:2525–2534.
10. Merriam-Webster Inc. *The Merriam-Webster Dictionary.* Springfield, MA: Merriam-Webster; 2005.
11. Obremskey WT, Pappas N, Attallah-Wasif E, Tornetta P 3rd, Bhandari M. Level of evidence in orthopaedic journals. *J Bone Joint Surg Am.* 2005;87:2632–2638.
12. Pauly MV, Burns LR. Price transparency for medical devices. *Health Aff (Millwood).* 2008;27:1544–1553.
13. Ranawat AS, Nunley R, Bozic K. Executive summary: value-based purchasing and technology assessment in orthopaedics. *Clin Orthop Relat Res.* 2009;467:2556–2560.
14. Robinson JC. Value-based purchasing for medical devices. *Health Aff (Millwood).* 2008;27:1523–1531.
15. US Federal Trade Commission. Letter to Assemblyman Greg Aghazarian: the FTC reviewed California State Assembly Bill 1960. Available at: http://www.ftc.gov/be/V040027.pdf. Accessed April 20, 2011.
16. Wilensky GR, Wolter N, Fischer MM. Gain sharing: a good concept getting a bad name? *Health Aff (Millwood).* 2007;26:w58–w67.
17. Wilson NA, Schneller ES, Montgomery K, Bozic KJ. Hip and knee implants: current trends and policy considerations. *Health Aff (Millwood).* 2008;27:1587–1598.