

Chapter 4

Section 4.05

Hospitals—Administration of Medical Equipment

Follow-up on VFM Section 3.05, *2006 Annual Report*

Background

Ontario has more than 150 public hospital corporations, each responsible for determining its own priorities to address patient needs in the communities it serves. In the 2007/08 fiscal year, the total operating cost of Ontario's hospitals was \$20 billion; in the 2005/06 fiscal year, these total operating costs were about \$17.5 billion, with provincial funding accounting for about 85% of total hospital funding. These figures exclude the cost of most physician services provided to hospital patients, because the Ministry of Health and Long-Term Care pays for these services through the Ontario Health Insurance Plan.

Hospitals operate a large variety of medical equipment required to meet patient needs—everything from relatively inexpensive vital-signs monitors to complex magnetic resonance imaging (MRI) machines costing millions of dollars. The acquisition, maintenance, and repair of such equipment is essential to provide quality patient care in hospitals. While overall expenditures by Ontario hospitals on medical equipment were not readily available, the three hospitals in which we conducted work (Grand River, Mount Sinai, and Thunder Bay Regional Health Sciences Centre) spent a total of

\$20 million to acquire medical equipment in the 2005 calendar year.

In our *2006 Annual Report*, we found that, while some areas were being well managed, procedures in other areas were inadequate to ensure that medical equipment was acquired and maintained in a cost-effective manner. For instance:

- Two of the three hospitals we visited did not use multi-year strategic plans to determine and prioritize medical equipment needs. While all three did have a prioritization process for annual equipment requests, most of the purchases we sampled at one hospital were made outside this process, because acquisitions using funds from sources such as the hospital's foundation did not need to go through the regular prioritization process.
- Hospitals did not consider certain relevant criteria in assessing proposed medical equipment purchases. For example, one hospital purchased laboratory equipment for \$534,000 without a documented assessment supporting the need for this equipment.
- The majority of the medical equipment acquisitions we reviewed were made without competitive selection. Hospitals indicated that this was due primarily to the standardization of medical equipment. While we recognize the benefits of standardizing certain types of

medical equipment (for example, to ensure compatibility with other hospital devices), we found that none of the hospitals had guidelines on what medical equipment should be standardized and therefore be exempt from competitive purchasing practices.

- One of the hospitals purchased its equipment through a buying group, which we expected would result in lower prices. However, none of the items that we sampled, including a computed tomography (CT) machine costing more than \$1.1 million, was purchased by the buying group using an open, competitive process. Given the specialized nature of certain medical equipment purchases, we were unable to assess whether hospitals or the buying group could have acquired equipment that met their patients' needs at a lower price, had they followed a competitive selection process.
- All three hospitals relied on equipment vendors to maintain their MRIs and CTs. We noted that the extent of maintenance varied, and was often less frequent than the standards set by the College of Physicians and Surgeons of Ontario for MRIs and CTs located in independent health facilities. We also noted that MRIs and CTs were not always subject to normal quality-assurance procedures to ensure that they were operating properly.
- Medical equipment was often not maintained as frequently as required by service manuals or hospital plans. For example, 75% of defibrillators at one hospital did not receive scheduled maintenance during 2005, and some had no maintenance at all during that year.

We made a number of recommendations for improvement, and received commitments from the hospitals and the Ministry that they would take action to address our concerns.

Current Status of Recommendations

In spring and summer 2008, the hospitals, as well as the Ministry of Health and Long-Term Care, where applicable, provided us with information on the current status of our *2006 Annual Report* recommendations. According to this information, all of the hospitals had taken action to address some of our recommendations, and were in the process of implementing most of the others. The status of the action taken on each of our recommendations at the time of our follow-up is as follows.

PRIORITIZING MEDICAL EQUIPMENT ACQUISITIONS

Recommendation 1

To ensure that decision-makers have adequate information to prioritize medical equipment purchases to maximize the value to patient care, hospitals should:

- *conduct multi-year equipment needs assessments and document the application of formal prioritization criteria for requesting and approving equipment purchases; and*
- *minimize exclusions from the hospital-wide prioritization-and-approval process and, where equipment is purchased outside this process, require appropriate approvals and documentation to support the reasons for the exclusion.*

Current Status

One hospital indicated that it has implemented a two-year capital-needs-assessment process. Another hospital indicated that it had implemented and was further refining a new three-year capital budgeting process, which included medical equipment. The third hospital noted that it is continuing to conduct multi-year medical-equipment-needs assessments. All the hospitals stated that they are now using formal prioritization criteria for requesting and approving equipment purchases.

With respect to minimizing exclusions from the hospital-wide prioritization-and-approval process for medical equipment, we were advised of the following:

- One hospital indicated that it has revised its policy, and now requires the capital budget to incorporate all equipment requests, including third-party-funded items. As well, its rationale for requests and purchases required to be made outside of the capital budget process, such as emergency purchases, must be documented and retained.
- Another hospital noted that it had formalized a policy requiring that all requests for medical equipment, regardless of funding source, go through its capital-planning process. Equipment purchased outside this process required approval and documentation of the reason for the emergency purchases or other exceptions, such as financial donations received after the annual capital-planning cycle. As well, this hospital indicated that in February 2008, it had implemented a policy requiring Board approval of all capital expenditure requisitions exceeding \$2 million.
- The third hospital indicated that it was developing a revised policy to better minimize exclusions from its hospital-wide prioritization and approval process for medical equipment acquisitions.

ACQUISITION OF MEDICAL EQUIPMENT

Justification of Need for Medical Equipment

Recommendation 2

To better manage resources, hospitals should, before purchasing medical equipment—especially new state-of-the-art equipment—consider:

- *all relevant costs;*
- *patient needs;*
- *the proven capabilities of the new technology;*

- *adequate performance agreements to protect the hospital when the decision is made to acquire unproven technology; and*
- *in conjunction with their Local Health Integration Network (LHIN), whether sufficient access to the equipment is already otherwise available to patients in the region.*

Current Status

At the time of our follow-up, all the hospitals had implemented capital equipment request-for-acquisition forms that required documentation of the costs as well as the clinical justification for medical equipment acquisitions. In addition, one hospital required specific departmental approvals to acquire certain types of medical equipment, such as equipment used for research. However, when the decision is made to acquire unproven technology, none of the hospitals' policies specifically addressed the proven capabilities of new technology or the use of performance agreements to protect the hospitals.

All three hospitals indicated that they were working, at least to some extent, in conjunction with their LHIN regarding patient access to diagnostic imaging equipment in their regions. For example, one hospital indicated that it submits reports on diagnostic imaging utilization to its LHIN, to assist it with optimizing system access. Another hospital stated that it contacts other hospitals within two LHINs when considering capital purchases over \$1 million.

The Ministry indicated that it, in conjunction with the LHINs, has introduced a new draft protocol to determine where to locate new MRI and CT machines in order to meet local population needs. This protocol requires hospitals requesting new MRI or CT machines to submit a proposal to their LHIN and the Ministry; this proposal is to include, among other information, the number and location of the hospitals' MRI and CT machines as well as other machines located in facilities in the surrounding area. The Ministry indicated that hospitals started using this protocol in fall 2007.

Acquisition Process

Competitive Selection of Vendors, Requests for Information, Sole-sourced Purchases, and Buying Groups

Recommendation 3

To ensure that medical equipment is being purchased as cost-effectively as possible, and to meet hospital-specific needs, hospitals or their buying groups should commit to establishing and ensuring compliance with competitive acquisition procedures, including:

- *requirements regarding the use of public requests for proposals for medical equipment purchases above a certain amount;*
- *criteria for equipment standardization versus an open competitive process; and*
- *requirements on when and how requests for information to determine vendors with available equipment that meets the hospital's needs are to be used.*

To help ensure that hospitals participating in co-operative purchasing arrangements for medical equipment are achieving savings, hospitals should formally monitor the co-operative arrangement's success in acquiring medical equipment.

Current Status

One hospital had implemented a policy in December 2007 requiring a public request for proposal to be issued for all acquisitions over \$100,000 unless the item was sourced from a single vendor, in which case documentation must be provided to support the vendor's status as the sole provider. Another hospital had formalized a policy in April 2008 outlining specific dollar thresholds for competitive-acquisition procedures, including exceptions for emergency, sole-sourcing, and standardized equipment purchases. The third hospital also approved a new policy in April 2008, which included the use of competitive acquisition procedures "depending on the request and the value of the equipment." However, this third hospital had not assigned specific dollar values.

None of the hospitals had developed specific criteria or guidelines for standardizing equipment

(that is, purchasing certain types of equipment from only one manufacturer) versus using an open competitive process. However, one hospital had, at least to some extent, defined when and how requests for information were to be used to determine vendors with available equipment that meets the hospital's needs, while another hospital had implemented a more detailed policy on when requests for information from interested vendors should be used.

With respect to formally monitoring co-operative purchasing arrangements for medical equipment to ensure that hospitals are achieving savings, the Ministry indicated that the Council of Academic Hospitals of Ontario (CAHO), with funding from the Ministry of Finance's OntarioBuys program, is piloting a two-year group-purchasing initiative for capital-equipment purchases, including certain medical equipment. Two of the hospitals indicated that they were participating in this initiative. The objective of the CAHO pilot is to provide an open, fair, and transparent process through the use of common procurement guidelines, a shared code of ethics and a standardized request for proposal process. The Ministry further noted that it will formally follow up on the pilot's success in achieving savings, and expects a final report in January 2010.

One of the two hospitals participating in the CAHO pilot indicated that its supply chain service provider/buying group is currently working on formalizing procurement policies and procedures that are to apply to all member hospitals. These policies and procedures are to include sole-sourcing certification, bid thresholds and tendering procedures.

The other hospital participating in the CAHO pilot noted that its buying group was exploring opportunities for group pricing for selected capital equipment. As well, this hospital stated that it continues to participate in capital procurement initiatives co-ordinated by the Ministry, such as purchases for CTs and MRIs.

Leasing Versus Buying

Recommendation 4

To help ensure that major pieces of medical equipment are acquired in the most economical manner, hospitals should formally assess all acquisition options, including leasing.

Current Status

One hospital implemented a policy indicating that all available financing and leasing options should be considered for all major capital equipment additions costing more than \$1 million. Another hospital indicated that it periodically evaluates leasing options, but believes that purchasing medical equipment outright is the less costly alternative, and therefore does not consider it practical to formally assess leasing options for all acquisitions. Similarly, the third hospital indicated that although it has revised its acquisition policy to also consider leasing options, most pieces of equipment are purchased outright to minimize financing costs.

MAINTENANCE AND REPAIRS OF MEDICAL EQUIPMENT

Service Options

Recommendation 5

For significant pieces or classes of medical equipment, hospitals should formally assess:

- *whether or not the capability to cost-effectively service and maintain the equipment exists in-house; and*
- *what third-party service options are available to meet the hospital's needs in the most economical fashion.*

Current Status

One hospital implemented a policy requiring the investigation of potential savings opportunities related to service and maintenance contracts for all major capital equipment acquisitions. In addition, this hospital noted that it planned to discuss this issue with its Local Health Integration Network (LHIN) in summer 2008, as it believed that econ-

omies of scale for in-house service and maintenance contracts could be assessed more efficiently at the LHIN level. Another hospital indicated that service contracts are tendered as part of its capital purchase process to ensure the best value is obtained. This hospital noted that it had also revised its capital equipment purchasing policy to require, as part of its review of vendors' proposals, a comparison of the cost and timeliness of in-house versus third-party servicing. The third hospital indicated that in the 2006/07 fiscal year, it had implemented a sign-off on its capital acquisition forms to indicate that the service options for all medical capital expenditures had been evaluated to ensure the most economical option was selected prior to procurement. Furthermore, this third hospital solicited service support options for diagnostic imaging equipment through the request for proposal process, and evaluated these options prior to procurement.

Conduct of Maintenance and Repairs

Recommendation 6

To ensure that medical equipment operates properly, hospitals should:

- *perform preventive and functional maintenance according to manufacturer's or other established specifications and monitor such maintenance to ensure that it is being completed; and*
- *track downtime and other out-of-service time for major medical equipment and use this information to determine the impact on patient care and costs, and to assess whether operating performance uptime guarantees have been breached.*

Current Status

With respect to preventive and functional maintenance, we were advised of the following:

- One hospital indicated that in September 2006, it had implemented a database to manage and monitor the scheduling and completion of both in-house and vendors' maintenance. As well, the hospital indicated that it

was implementing an initiative to ensure the integrity of the information entered in this database.

- Another hospital stated that it had completed an analysis of its equipment maintenance needs and brought its database up to date, including the timing of preventive maintenance. In addition, the hospital indicated that it was monitoring maintenance completed versus maintenance scheduled, and had implemented a plan to improve its performance.
- The third hospital noted that it had reviewed existing service contracts to ensure that these contracts complied with manufacturers' standards. As well, this hospital indicated it now maintained a paper trail of all preventive maintenance and service records for the equipment in its diagnostic imaging department. However, the hospital commented that it still needed to formalize its processes to monitor the completion of maintenance for its minor equipment.

With respect to downtime and other out-of-service time for medical equipment, at the time of our follow-up, we were advised of the following:

- One hospital indicated that it is maintaining manual equipment-maintenance records, which flag downtime, and that it reviews these records for compliance with uptime guarantees. This hospital noted that it is reviewing software options that would enable the electronic tracking of medical equipment maintenance and downtime.
- Another hospital stated that while it has the ability to obtain ad hoc uptime reports on major diagnostic equipment from vendors, this has not been its regular practice. This same hospital noted that, should numerous problems occur, its management and technicians would be aware of them. However, the hospital added that its diagnostic imaging

department is considering tracking downtime as a performance indicator, which would highlight significant equipment issues.

- The third hospital informed us that it has established monthly meetings with its vendors, who track downtime for its major medical equipment such as MRIs and CTs, to discuss any ongoing service issues. However, this hospital indicated that it no longer has uptime guarantees with its equipment vendors.

Tracking of Medical Equipment

Recommendation 7

To assist in better managing medical equipment needs and identifying equipment for maintenance, hospitals should ensure that medical equipment inventory listings contain complete and up-to-date information on the acquisition, maintenance, and disposal of medical equipment.

Current Status

At the time of our follow-up, one hospital indicated that it had implemented a medical equipment database to track medical equipment, including information on the acquisition, maintenance, and disposal of equipment. Another hospital indicated that it had updated its equipment listings and was considering options to verify the accuracy of these listings, including a possible hospital-wide equipment count. In addition, this same hospital said it had enhanced its disposal process for fixed assets, including medical equipment. The third hospital noted that while it had not yet addressed this recommendation, it had started an informal process to identify asset management software packages to help track equipment, with a view to installing the system by spring 2009.

OTHER MATTER

Conflict-of-Interest Declarations

Recommendation 8

To help ensure that medical equipment is acquired at the best price and to avoid potential conflicts of interest, hospitals should:

- *require that all board members as well as individuals participating in, or having influence over, the purchasing process complete annual conflict-of-interest declarations that include actual and potential conflicts, and should require vendors to complete a conflict-of-interest declaration as part of the acquisition process; and*
- *provide guidance on what constitutes a conflict, to whom conflict-of-interest declarations should be provided, and the consequences of not declaring potential or actual conflicts of interest.*

Current Status

At the time of our follow-up, two of the hospitals had detailed conflict-of-interest declarations in place, requiring individuals to disclose actual or potential conflict-of-interest situations. As well, one of these two hospitals required all board members as well as anyone having influence over any purchasing process to complete an annual conflict-of-interest declaration. The third hospital indicated that it requires board members and others participating in an equipment procurement process to declare actual and potential conflict situations as they arise.

One of the hospitals has implemented a policy requiring vendors to declare any conflicts of interest. Another hospital indicated that it requires vendors that respond to a request for proposal to declare conflicts of interest; it is not, however, considering obtaining vendor conflict-of-interest declarations where equipment is acquired without using a request for proposal, as this would only occur if the equipment was standardized, or there were no competitive alternatives. The third hospital indicated that vendors are not required to complete written conflict-of-interest declarations, but are required to disclose any financial or other support made to specific hospital departments or staff.

Two of the hospitals now have policies in place which provide guidance on what constitutes a conflict, to whom conflict-of-interest declarations should be provided, and the consequences of not declaring potential or actual conflicts of interest. The third hospital said that as of December 2007, it has required individuals on the hospital's request-for-proposal evaluation committee to sign a conflict-of-interest form. This form outlines the conflict-of-interest situations that would prevent the person from being a member of the selection committee. However, the hospital has no further guidance on what constitutes a conflict, reporting conflict-of-interest declarations, or the consequences of not declaring potential or actual conflicts of interest.