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Quality Management Across the Continuum of Care in Orthopedics

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To date, quality management and quality reporting in orthopedics have concentrated in two specific clinical areas, joint replacement and spine surgery. Furthermore, this reporting has almost totally focused on in-patient metrics that have been culled from either the Centers for Medicare and Medicaid Service (CMS) or, occasionally, from all payer billing data. To date, these metrics are totally focused on the area of surgical complications. In public reporting, two major web-based rating organizations (HealthGrades and Hospital Compare) use these complication metrics to rate hospitals and eventually plan on using them to rate physicians.
While surgical complications are certainly an essential metric to track and directly affect quality, they do not represent the quality outcomes of specific orthopedic care, nor does focusing on the surgical component of that care represent the entire care continuum. With the average hospital stay for knee replacement surgery now 3 days or even less, given an average two-year course of therapy for osteoarthritis of the knee (pre-operative medical management, surgical care, and post-operative rehabilitative care), the in-patient stay represents only 0.41% of the entire therapeutic course.

Recognizing the limitations of a "surgical complication" approach to quality improvement and management, The Rothman Orthopedic Institute at Thomas Jefferson University has designed and is implementing a system that will allow for the measurement of orthopedic outcomes based on patient function and pain. This approach recognizes the fact that orthopedic care does not start and end at the door to the operating room.

The measurement of function and pain, the orthopedics' outcomes that patients rightly focus on, has long been standardized by the use of specific validated "tools." Questionnaires such as the Disabilities of the Arm, Shoulder and Hand (DASH) Score[4] and The WOMAC (Western Ontario and McMaster Universities Index of Osteoarthritis)[5] allow patients to answer simple function and pain questions that lead to quantifiable measures of orthopedic outcomes. The challenge is to be able to collect this information reliably at specific intervals during the course of therapy, analyze it across multiple practitioners so as to identify best practice, and then link the outcomes to specific therapeutic variables (pain management, anesthesia, pharmaceutical interventions, surgical approach, rehabilitation pathways, etc.). Rothman has developed a system whereby, for example, a "knee patient" completes the appropriate functional tool at certain specific intervals (before and after knee injections, before and after surgery, before and after medical management, etc.). The same tool is used for similar patients no matter who the treating physician may be within the Rothman practice. Consequently, as patients pass from non-operative doctors to surgeons or to physical therapists, there is continuity of the quality measurements. Both an Internet portal (which is accessible from any computer) and in-office iPads allow patients to easily supply the needed information by completing the appropriate functional tool.

In addition, the patient generates a large volume of other clinical information during the course of his/her care. This information will be collected, stored, analyzed and trended in order that evidence-based decisions can be made relative to best practice. The Rothman Institute, in conjunction with Universal Research Solutions, has developed OBERD (Outcomes-Based Electronic Research Database).[6] This system is intended to integrate data from diverse systems (outpatient EMR, Hospital EMR, Rehabilitation IT systems, etc.) and allow for tracking of function and pain measurements from the moment a new patient enters the practice until his/her course of treatment is completed. Specific variables such as type of pain medication, surgical anesthesia, and rehabilitative course can then be linked to functional outcomes across the entire continuum.

Rothman, understanding that such information is of little use unless it is accessible to the patient's orthopedist, has incorporated into its system design the ability to illustrate patient functional trends in graphic form, comparing like patients to like patients, a patient to a patient population, or a patient to other patients within a practitioner's own panel. Once the system is fully functional, information will be available within the Rothman Institute's EMR and viewable in real time during the patient's office visit. A patient who falls outside certain standard parameters with regards to their therapeutic outcomes is readily obvious, allowing the physician to appropriately modify the care.

The long-term goal of this initiative is to bring other orthopedic practices into similar data collection systems so that therapeutic and outcome information can be pooled into a larger data base that would allow for a more robust identification of best practices and,

Continued on next page

subsequently, true quality benchmarking across the specialty. While quality management will continue to track surgical complications, this initiative will move these activities into the area of true orthopedic outcomes. ■

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