Reengineering Medical Records: The Dubois Regional Medical Center's Experience

by Thomas H. Johnson, MBA, and James G. Pesek, PhD

Introduction

Many health services organizations were pushed in the direction of CQI/TQM by the Joint Commission on Accreditation of Healthcare Organizations' Agenda for Change, which recognized the critical need for quality improvement efforts.[1] Reengineering and work redesign have been used to further improve systems and processes, reduce costs, and improve market share.[2] DuBois Regional Medical Center (DRMC) is one such health services organization that has moved from CQI/TQM to reengineering in order to improve its core processes and clinical documentation information system.

From CQI to Reengineering

Through CQI, DRMC was able to streamline and improve many processes, resulting in increased cost savings or improvement in the quality of care. But since managed care was moving swiftly into the region, DRMC wanted to prepare for it by further reducing costs and improving its quality of care. This preparation was part of an effort to attract large managed care contracts. In July 1996, DRMC contracted an outside consulting firm to analyze many of its core processes. Reengineering was recommended because it can be completed quickly and show immediate results. Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical measures of performance, such as cost and speed.[3] DRMC adopted the reengineering approach and began training all of its managers, supervisors, and many of its front-line staff members on its principles and techniques. The process involved the following steps:

- Establish the goal
- Focus on the data
- Identify and research the opportunities
- Create work redesign plans
- Evaluate the plans
- Submit and authorize the plans
- Execute the plans and assess the results
- Improve continuously

DRMC extensively surveyed all internal and external stakeholders and performed data analysis to determine the current state of affairs, identify and prioritize opportunities to improve, and create and implement plans with ongoing evaluation. The Organizational Development department acquired training in reengineering to provide ongoing education for DRMC. However, the consultants returned periodically to evaluate the process and answer questions.

The Reengineering Executive Committee, composed of senior management members, created six cross-functional teams to analyze the core processes throughout the medical center:

- Clinical documentation
- Meeting time
- Equipment/environment
- Patient transport
- Inpatient care redesign
- Communications

Reengineering -- Clinical Documentation

Using reengineering, the Clinical Documentation Team discovered that one of the most costly -- and disturbing -- areas to improve was healthcare professionals' documentation time. They spent more time documenting patient care than they did providing it (see Figure 1). This finding directed the DRMC's 12-member documentation task team to research the opportunity for improvement. The team subsequently developed the following goal statement:

Goal Statement

To develop a computerized multi-disciplinary documentation system that allows the clinician to:

- Share information throughout the entire enterprise
- Efficiently capture data at the point of care
- Provide quick and easy access to complete and accurate information
- Continue towards the elimination of paper-based information

The following will be achieved by attaining the above goals:

- Reduce cost/time/redundancy
- Enhance multidisciplinary communications
- Improve customer satisfaction
- Improve quality of care delivered to the patients
- Enhance the integration of the hospital information system

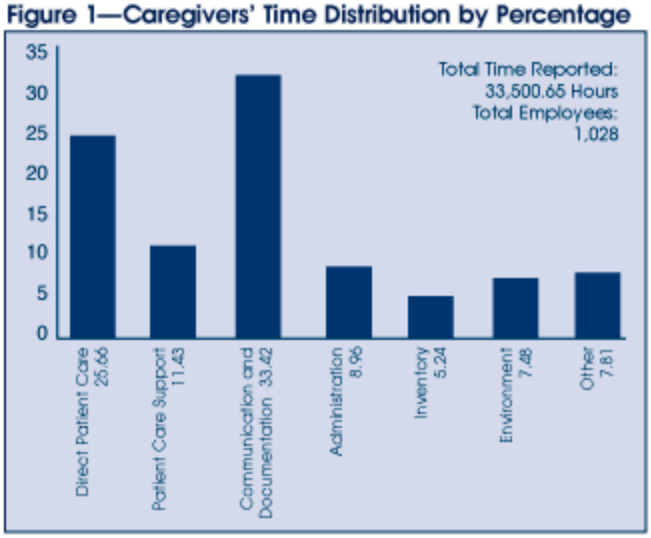
It is important to note that DRMC has established a clear link between its reengineering efforts and its strategic goals and objectives. For example, its strategic approach to information management aimed to develop an integrated healthcare delivery enterprise that could share information throughout the entire enterprise, efficiently capture data at the point of care, provide quick and easy access to complete and accurate information, and continue towards the elimination of paper-based information.

Clinical Documentation Analysis

An analysis of the medical center's current clinical documentation system showed how clinicians spend their time. Based on a work imaging study and employee and physician surveys, the following problems and roadblocks were identified:

- Too many forms
- Illegible writing
- Overdocumentation from fear of litigation
- Duplicated and redundant documentation
- Lost or missing forms or charts
- Charts unavailable
- Charts too voluminous and hard to store safely

Figure 1—Caregivers' Time Distribution by Percentage



Many of the surveyed clinicians voiced their frustrations with the current documentation system. The team's next step was to assess the size of the problem by creating a forms library -- a collection of all clinical documentation forms used throughout the entire organization. Next, the team listed ideas to improve the current documentation system, such as:

- Standardization of forms throughout the entire medical center
- Charting by exception (significant changes only)
- Consolidation of certain forms
- Elimination of unnecessary forms
- Definition of normal limits and data dictionaries
- Increased access to the chart

The team then decided to look externally at how other facilities were handling this common problem. This benchmarking effort -- consisting of phone surveys, literature searches, site visits, and networking -- pointed to the logical solution: complete computerization of the clinical documentation system.

The next challenge was to bring in and evaluate computerized documentation systems. The different vendors' systems were evaluated and compared based on the following criteria:

- Open systems compliance
- Support of HL7 (healthcare industry communications protocol) and capability of interfacing to DRMC's current systems
- Platforms supported
- Ability to be customized
- Ability to meet the assessed needs identified above
- Cost of the system (both initial and ongoing)
- Support and training provided by vendor
- Size of current customer base
- Results of phone surveys and site visits to existing customers

Based on the criteria listed above, a vendor was selected and more demonstrations of its system were conducted for clinical staff.

Planning

The clinical documentation task team performed three months of intensive and detailed planning to ensure every aspect of the process had been covered. Since the task team was planning this project under the reengineering umbrella, its mission had two purposes: to plan a new computerized clinical documentation system while at the same time following the CQI philosophy. The computerization of the medical record was a primary objective in DRMC's strategic plan, as well as a major part of the information management plan.

Implementation

The plan for implementation was to reengineer each process of the manual paper-based system for a smooth, standardized flow of information. The next step entailed recreating it in the computer system to further enhance and improve the process using the computer system's efficiencies, such as real-time, multiuser, and simultaneous access to the record. This was accomplished by creating three subgroups from the primary task team and adding new members from the clinical areas to work on these subgroups.

The build and design group was responsible for streamlining the paper processes and building them in the computer system. Its efforts eliminated numerous medical records "paper" forms and flowsheets including:

- Admissions history form
- IV sheet
- Blood transfusion record form
- Frequent visits flowsheet
- Other specialized forms and flowsheets from dialysis and epidural infusions

The policies and procedures group was responsible for creating protocols on system processes and procedures for situations such as system downtime. The education and training group was responsible for training the large number of staff who would now rely on a computer system to perform the majority of their daily tasks.

The system will be implemented in three phases, spanning a three-year time frame. One phase will be implemented per year. Phase one consists of two medical-surgical units, pediatrics, rehabilitation, and the intensive care unit. These units were chosen because they represent the largest patient and documentation volume.

Evaluation

Although it is too soon to conduct a final evaluation of the reengineering effort at DRMC, there have been some preliminary quality improvements, including:

- Improved access to medical records by caregivers for review and input
- Increased legibility of medical records
- Easier retrieval of data and configuration of data into reviews and discipline-specific reports
- The beginning of a truly integrated multidisciplinary medical record
- Enhanced communication throughout the hospital using multidisciplinary teams
- Increased staff time at bedside (primarily due to charting by exception)

Karen Ferut, a medical/surgical floor charge nurse and a member of the information management steering committee, notes that "The time saved using computer documentation has allowed the nursing staff to be where they need to be: at the bedside caring for their patients."

Debbie Robison, RRA, DRMC's manager of medical records and another member of the information management steering committee, says, "Conversion to this computerized system gives us the opportunity to standardize more documentation. In turn, the monthly record review process is more systematic; deficiencies are easier to identify and correct. When all the units have been phased in, we'll also have the benefit of shared access." She expects improved patient care and user satisfaction in the future.

Many times organizations have implemented CQI or reengineering changes without adequately and systematically evaluating the implementation process. At DRMC the clinical documentation team will completely evaluate the implementation experience from the first medical-surgical floor to determine what did and did not work. The information will be used to modify the implementation steps for the second area and so on, continuously improving the implementation process throughout the three-year plan.

Discussion

DRMC still faces many challenges if its reengineering effort is ultimately judged as a success. If DRMC is going to have long-term success with reengineering, it must not overlook the problems of reengineering efforts -- namely the insensitivity to human, social and political issues.[4,5] Kelly Grube, DRMC's clinical information systems coordinator, says, "While the change from paper to computerized documentation could be viewed as technical, the human side of change, managing the logistics of the implementation, and communication cannot be overlooked as a critical element in the process." Some quality circle programs and CQI/TQM efforts have failed in part due to management's failure to provide a measure of job security to employees. If continued quality and productivity improvements are desired, management must provide assurances to its employees that they will not lose their jobs as a result of their participation in CQI/TQM or reengineering efforts.

Notes

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Thomas H. Johnson *is assistant manager of MIS at DuBois Regional Medical Center in DuBois, PA.* ***Dr. James G. Pesek*** *is chair and professor of management at Clarion University of Pennsylvania in Clarion, PA.*

Article citation:
Johnson, Thomas H., and James G. Pesek. "Reengineering Medical Records: the Dubois Regional Medial Center's Experience." *Journal of AHIMA* 69, no.3 (1998): 57-59.
