Utilizing Blue Ocean Strategies for Electronic Health Care Documentation to Navigate the Red Ocean Waters of Health Care Reform

Emergent Research Forum

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Abstract

Health care is adrift in a sea of change. In order to navigate challenges, such as health care reform and meaningful use, new strategies are needed. This paper examines the application of health care informatics and leveraging of the electronic health record (EHR) as a strategic tool to impact documentation accuracy and charge capture outcomes in a large academic medical center's surgical services department. UAB Hospital is a 1056 bed hospital located in Birmingham, Alabama with a perioperative department consisting of 32 general operating rooms located on the main campus. This emergent work from June of 2014 and ongoing examines a multifactorial approach using structural system factors combined with process and workflow redesign to improve outcomes. Preliminary results are promising with a reduction in documentation errors and a process redesign that includes data collection of error types for re-education and engagement of the end-user of the EHR, the staff nurses.

Keywords

Health care reform, patient care documentation, electronic medical records, blue ocean strategies.

Introduction

Health care documentation is an ongoing challenge. Accurate, timely, and meaningful documentation is necessary in a major academic medical center's perioperative services for both clinical and fiscal success in today's health care environment. With the recent changes in health care reform, institutions are being held accountable based on outcomes. Organizations pull data from its documentation to demonstrate those outcomes; therefore, accuracy is a key driver in meeting the requirements. The perioperative arena provides surgical care for inpatients and outpatients during preoperative, intra-operative, and immediate post-operative periods. Complex documentation for each of these areas is required to capture the care provided and meet regulatory requirements. As health care reimbursement has come under intense scrutiny from regulatory agencies and the profit margin has diminished. The business of health care is faced with red ocean concepts such as rising costs in a competitive market place where other providers offer similar services.

In 2000, the Institute of Medicine (IOM) issued a report titled *To Err is Human* which estimated 70,000 annual deaths due to medical errors despite the disproportionate healthcare spending. This landmark report marked a paradigm shift in health care with a focus on quality (IOM, 2000). In 2001, the IOM issued a follow-up report, *Crossing the Quality Chasm,* strongly recommended the use of electronic solutions, such as the electronic health record (EHR), as a strategy to improve the quality of care provided (IOM, 2001). As health care has shifted toward monitoring and improving clinical outcomes to meet regulatory and reimbursement requirements, the University of Alabama at Birmingham (UAB) Hospital became an early adopter of the EHR and has been distinguished as one of *HealthCares's 2014 Most Wired* by Hospitals & Health Networks. Recent reforms in legislation, such as the American Recovery and Reinvestment Act of 2009 and the Affordable Care Act of 2010, have made accurate documentation and precise charge capture through the EHR necessary to remain viable in the marketplace. The institution

must ensure money has not been left on the table through poor charge capture or coding practices. In addition, health care providers are challenged to prevent inaccurate documentation which can lead to financial penalties through Pay for Performance measures and can open up Recover Audit Program (RAC) audits that seek to capture overpayments made on health care claims that cannot be justified through existing documentation.

In this study the innovative electronic documentation strategies used in the perioperative health care environment to improve outcomes will be discussed. This ongoing emergent research uses a multifactorial approach focused on patient care documentation processes, leveraging of the IS structure, and fiscal outcomes related to charge capture and billing integrity. The application of these strategies will be outlined as part of this emergent research and distinguish how the health care industry can use innovative information systems to improve internally and become more viable in a highly competitive and now punitive market. The research presented uses blue ocean thinking and is a call for action for innovation and re-imagined strategies as industries such as health care are asked to perform better with fewer resources.

The following section provides a more in-depth review of evidence in the literature supporting the importance of accurate documentation, the drivers that affect documentation accuracy, and the leveraging of information systems to achieve the strategic goals of the organization and improve outcomes. Following the literature review, the methodology, case study analysis and background of the innovative strategies being used and lessons learned from the process redesign included in the IS/IT planning and implementation efforts. The conclusion also addresses study implications and limitations.

Literature Review

A literature review was conducted to evaluate how documentation accuracy and innovative leveraging of information systems can improve outcomes. A search was conducted using the Cumulative Index to Nursing and Allied Health (CINHAL), PubMed, and Cochrane databases using the key words documentation, electronic health record, and quality outcomes. The search was limited to English language, peer-reviewed, research articles and was narrowed to relevance to practice.

The literature supports the importance of accurate health care documentation. In order to meet the challenges outlined in the IOM reports many health care institutions have now adopted electronic documentation systems. The electronic medical record is a legal document or clinical documentation systems are used to collect and disseminate patient data in real-time (McGonigal & Mastrain, 2009). Four common benefits of the EHR are the increased delivery of guideline-based care, the ability to perform surveillance for conditions, decreased medication errors, and reduced utilization (Chaudhry et al., 2006). These benefit categories in the literature provide a basis for strategies aimed for standardization and data mining the electronic documentation for continuous improvement efforts. Braff, Manias, & Riley (2011) reviewed the role of documentation in communication failures among perioperative professionals and concluded that documentation is an integral component of the communication process between clinicians and document deficiencies in detail, currency, accuracy, or availability compromises information transfer and coordination of patient care. Communication provides the foundation for safe and effective patient care.

Blue ocean strategy looks outside of the competitive environment and creates an opportunity for growth by changing your internal approach toward a new market space (Kim and Mouborgne, 2004). Perioperative services' growth is thought to be constrained within its physical environment and utilization capacity. Using a blue ocean strategy approach to health care market expansion can occur by basing growth on improved quality and price transparency (Krivich, 2014).

Background and Significance

The Joint Commission on Accreditation of Health Care Organization (TJC) is an independent, non-profit organization that provides accrediting and certification to over twenty thousand health care organizations. TJC has used documentation of certain conditions and indicators as evidence of patient safety and quality

outcomes (Houston-Raasikh, 2014). While hospital participation in Joint Commission accreditation for hospitals is considered voluntary, it is the gold standard for quality of care, and the federal government requires hospitals to meet their standards in order to receive reimbursement from the Medicare and Medicaid programs. The Joint Commission requires a review of the medical record at the point of care and ongoing for the presence of required data, proof of timeliness, readability, quality through the provision of appropriate care, consistency of the documentation standards and principals, clarity, accuracy, completeness, and authentication of the data (HCPro, 2005). According to *OR Manager* (2012), when the Joint Commission surveyors assess perioperative or procedural areas, they are looking for compliance with standards on the history and physical, post-operative and post-anesthesia reports, the ordering and labeling of medications, universal protocol, and evidence of infection control and safety practices in the documentation.

Meaningful use of EHRs has also become a key driver in how the business of health care is conducted. Meaningful use standards outline qualifications of the implementation and use of certified EHRs entitle physicians and hospitals to receive incentive payments for the Centers for Medicare and Medicaid Services (CMS). The government has leveraged these subsidies of up to $63,750 for Medicaid provider over 6 years or $44,000 over 5 years for Medicare providers (Schuman, 2014) to ensure electronic medical records are used as a standard of care. These incentive-based measures are contrasted with potential penalties that by a gradual reduction of up to 5% of Medicare payments if they are not in compliance by 2015 (Schuman, 2014). Meaningful Use is aimed to improve coordination of care and communication, reduce errors, support evidence-based care, improve the documentation of essential demographic information, promote cost-effective care delivery, and provide patient access to their personal health care information.

The documentation in Perioperative Services does not exhibit quality of care, the level of attention to detail required, and knowledge of efficient EHR navigation. Table 1 reflects the baseline information that was collected by the new Implant Coordinator of the errors in the implant segment of the electronic surgical record. It is the expectation of leadership in Perioperative Services that the documentation reflects the core values of the staff and is representative of a preferred academic medical center of the 21st century. Throughout the past 10 years, there have been increased efforts and attention to the quality of documentation but with varying results. Due to the current health care environment lack of progress in this area is no longer an option.

Table 1: Implant Documentation Errors in the Electronic Health Record

Month/Year	Number of Implants	Number of Errors	Number of Cases	Cases with Errors	Error Percentage by Surgical Case
Sept 2011	1956	240	528	103	19.51%
Oct 2011	2144	271	586	128	21.84%
Nov 2011	2223	198	580	123	21.21%
Dec 2011	2138	234	580	98	16.90%

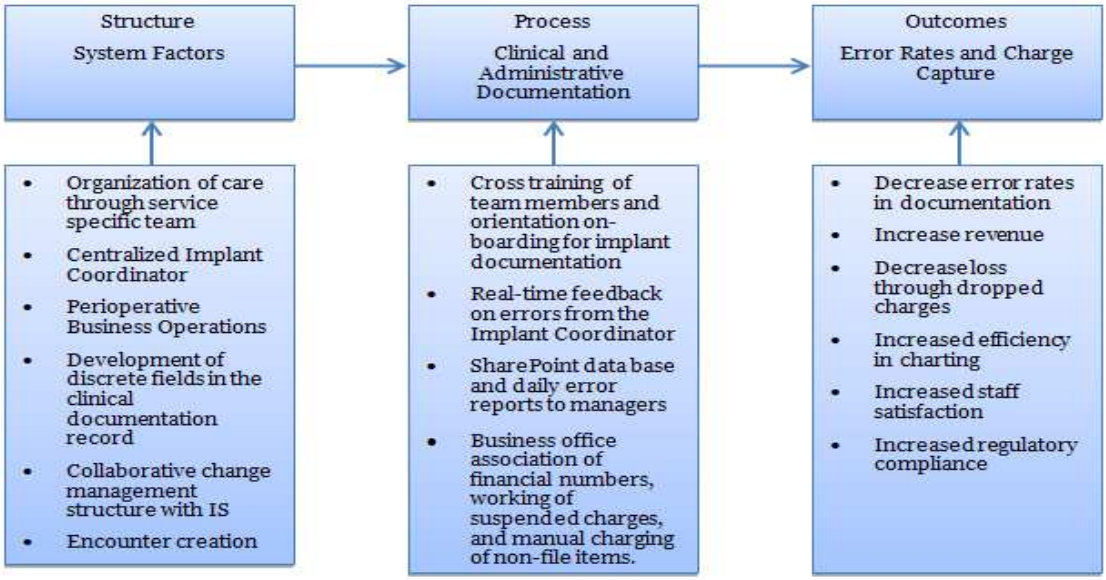
Methods

Donabedian's framework was used to guide our research. Donebedian (1988) defines outcomes as an optimal health status of individual patients or patient groups and states that high-quality outcomes are dependent on high-quality processes and structures. Documentation processes and structures at the perioperative bedside drive improved outcomes. A nurse's state board of nursing delineates guidelines that should be followed but the objective of any state's nursing practice act regarding documentation is to provide a clear and accurate picture of the patient care provided based on evidence-based practice and reasonable and prudent standards of nursing care (Campos, 2009).

In order to improve outcomes through quality documentation, the structure and processes that affect that documentation had to be improved (Figure 1). The operational definition of structure includes the discrete items that are part of the clinical document found in the health care information system, the oversight structure of the implant documentation, and the development of tools allowing real-time data collection,

reporting, and dissemination to nursing leadership. The processes that were targeted included staff documentation, charge capture, preference card maintenance, and accountability measures.

Figure 1. Donebedian Framework for Documentation Quality



The objective of this study is to investigate how innovative strategies using information systems and electronic documentation can be used to improve outcomes. Blue ocean strategies are utilized to go beyond competing and use innovation to capitalize on growth opportunities (Kim & Mauborgne, 2014). Therefore, our study uses a blue ocean approach for strategies to improve clinical documentation and increase viability through improved outcomes in the health care arena.

This study spans activities from 2013 through 2014, with historical data available from 2005 to 2014 for comparison. This is the first phase of ongoing quality improvement research being conducted for implementation and continuous process improvement. During the 12 month study, data was gathered from multiple sources, including interviews, field surveys, site observations, archival records, and documents reviews. The use of a singular setting enabled the collection of longitudinal data that was relevant to the research question. The research site is a large teaching hospital (UAB Hospital), licensed for 1056 beds and located in the southeastern region of the United States. UAB Hospital is a Magnet hospital and U.S. News and World Report recognized University Hospital as a Best Hospital in 18 of the last 20 years. The focus group for this study was the Orthopedic Service which performed 2706 surgical cases in the General OR for 2014. The Orthopedic Team Leader and nursing staff were the source of our interviews and focus group for process improvement efforts. The Orthopedics team has the highest percentage of implants and therefore, efforts for improvement have the highest return on investment for both quality and fiscal outcomes.

This research focused on UAB Hospital's use of IS based documentation strategies to improve documentation and improve outcomes in the perioperative department consisting of 32 general operating room (OR) suites from November 2004 through January 2012. Perioperative Services is a department within UAB Hospital department that coordinates the hospital's perioperative process. During this time span, University Hospital's Perioperative Services broadened its scope to include three other surgical services within the University Hospital System, adding cardio-vascular suites and two off-site surgical clinics for an additional 38 OR suites.

Results

The preliminary results of this study have been mainly focused on improving the process outcomes thus far. Previous efforts to re-educate staff on the documentation and regulatory requirements have only accomplished short-lived gains. The following innovative strategies have been used to drive improvement efforts. Perioperative Services has leveraged business office personnel to ensure a quality process. Daily associations of financial numbers occur before staff and patients arrive to assure the encounter is billed and documented properly. A task force was assembled in 2013 to update and streamline the preference cards within the IS clinical documentation system that provides structure and default elements for the surgical case documentation along with a pick ticket with supplies and equipment routinely used. The preference card task force brought in team leaders and super-users for each service to provide expert clinical knowledge for both process and documentation. A collaborative effort with the hospital's Supply Chain and Revenue Integrity Departments was used to decrease documentation errors and staff frustration through the uploading of contracts and non-file items into Lawson, the electronic database used to integrate inventory and supply data with the electronic medical record documentation. This effort developed into a weekly Revenue Integrity meeting where the Perioperative Business office staff utilizes WebEx conferencing to get all key stakeholders together to work through a current problem list and known system barriers that prevent the staff nurse in the room from successfully documenting the case or issues that prevent the billing software from being able to drop charges and bill electronically.

The preliminary results depicted in Table 1 for the General OR and Table 2 for the orthopedic team show an improvement from the 2011 data collected for both the General Operating Room and for the Orthopedics Service that served as the focus group. These improvements occurred as increased attention was paid to errors by nursing leadership and through staff awareness of daily processes.

Table 1. Error data for the General Operating Room

	Jun 2014	Jul 2014	Aug 2014	Sept 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015
General OR Cases	2104	2235	2230	2025	2197	1835	2087	2005
Number of Financial/Charging Errors	86	98	67	114	99	21	20	210
Number of Documentation/Regulatory Errors	8	2	42	61	33	14	7	9
Number of Implant Errors	30	5	16	15	6	0	0	16
Financial/Charging Error Percentage	4.1%	4.4%	3.0%	5.6%	4.5%	1.1%	1.0%	10.5%
Documentation/Regulatory Error Percentage	0.4%	0.1%	1.9%	3.0%	1.5%	0.8%	0.3%	0.4%
Implant Error Percentage	1.4%	0.2%	0.7%	0.7%	0.3%	0.0%	0.0%	0.8%

Table 2. Error Data for Orthopedics Service

	Jun 2014	Jul 2014	Aug 2014	Sept 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015
Orthopedics Team Cases	242	257	235	242	289	229	264	242
Number of Financial/Charging Errors	53	66	37	69	48	3	3	97
Number of Documentation/Regulatory Errors	3	1	18	14	6	1	0	1
Number of Implant Errors	13	0	5	2	0	0	0	4
Financial/Charging Error Percentage	21.9%	25.7%	15.7%	28.5%	1.3%	1.1%	1.1%	40.1%
Documentation/Regulatory Error Percentage	1.2%	0.4%	7.7%	5.8%	2.1%	0.4%	0.0%	0.4%
Implant Error Percentage	5.4%	0.0%	2.1%	0.8%	0.0%	0.0%	0.0%	1.7%

Conclusion

The first phase of this quality improvement effort has proven that the efforts to continue with innovative solutions are worthwhile. Perioperative Services and health care providers in general must start thinking outside of the box and outside of the competitive market to find solutions within to address quality and fiscal stability that will set them apart from the crowd.

The innovative strategies used focused on system factors, processes, and outcomes. Through the leveraging of staff and information systems, changes were made to the structure. New processes were developed, existing processes were changed, and collaborative partnerships were used to streamline documentation for improved accuracy and quality. Preliminary data shows some improvement from baseline data collected in 2011, but the processes developed for ongoing data collection and structure for continuous quality improvement will provide the foundation for future research.

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