Implementation of a Clinical Documentation Improvement Curriculum Improves Quality Metrics and Hospital Charges in an Academic Surgery Department

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BACKGROUND: Accurate clinical documentation (CD) is necessary for many aspects of modern health care, including excellent communication, quality metrics reporting, and legal documentation. New requirements have mandated adoption of ICD-10-CM coding systems, adding another layer of complexity to CD. A clinical documentation improvement (CDI) and ICD-10 training program was created for health care providers in our academic surgery department. We aimed to assess the impact of our CDI curriculum by comparing quality metrics, coding, and reimbursement before and after implementation of our CDI program.

STUDY DESIGN: A CDI/ICD-10 training curriculum was instituted in September 2014 for all members of our university surgery department. The curriculum consisted of didactic lectures, 1-on-1 provider training, case reviews, e-learning modules, and CD queries from nurse CDI staff and hospital coders. Outcomes parameters included monthly documentation completion rates, severity of illness (SOI), risk of mortality (ROM), case-mix index (CMI), all-payer refined diagnosis-related groups (APR-DRG), and Surgical Care Improvement Program (SCIP) metrics. Financial gain from responses to CDI queries was determined retrospectively.

RESULTS: Surgery department delinquent documentation decreased by 85% after CDI implementation. Compliance with SCIP measures improved from 85% to 97%. Significant increases in surgical SOI, ROM, CMI, and APR-DRG (all $p < 0.01$) were found after CDI/ICD-10 training implementation. Provider responses to CDI queries resulted in an estimated $4,672,786 increase in charges.

CONCLUSIONS: Clinical documentation improvement/ICD-10 training in an academic surgery department is an effective method to improve documentation rates, increase the hospital estimated reimbursement based on more accurate CD, and provide better compliance with surgical quality measures. (J Am Coll Surg 2017;224:301−309. © 2016 by the American College of Surgeons. Published by Elsevier Inc. All rights reserved.)

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Accuracy of clinical documentation (CD) is important for communication of information regarding patient care, and it is critical for proper billing for services, quality assessment, legal actions, education, and research.[1] Federal quality assurance programs such as Value Based Purchasing[2] and the Physician Quality Reporting System[3] seek to enhance the value of health care through quality improvement and diminished cost. In our current environment, the value of health care is determined from CD, which is often used to create incentives and penalties

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Abbreviations and Acronyms

APR-DRG = all-payer refined diagnosis-related groups
CD = clinical documentation
CDI = clinical documentation improvement
CMI = case-mix index
CMS = Centers for Medicare and Medicaid Services
HIM = Health Information Management
PSI = Patient Safety Indicator
ROM = risk of mortality
SCIP = Surgical Care Improvement Program
SOI = severity of illness

outlined in reimbursement models. Increased specificity in CD is now required by the ICD-10 guidelines.[4,5]

In 2015, the AMA estimated that the implementation of ICD-10 would result in significant financial losses for providers across the US. Anticipated costs resulting from training, testing, software upgrades, payment disruptions, and productivity loss for physicians ranged from $56,519 for a small practice up to more than $8 million for large practices.[6] Significant concerns surrounding ICD-10 implementation in October 2015 prompted evaluation of CD at the University of New Mexico Health Science Center, a level 1 trauma and safety-net institution. We hired an external consulting company to perform an audit of a random sample of 30 University of New Mexico Health Science Center medical records. It was determined that 76% of current charts represented a possible DRG increase through physician query and documentation improvement, with a projected 40% loss in reimbursement due to insufficient documentation after the implementation of ICD-10. Further financial losses for our center were anticipated from Centers for Medicare and Medicaid Services (CMS) penalties. Additionally, being the only level 1 trauma and safety net hospital in New Mexico, we consistently receive the highest acuity patients in the state. Publicly funded teaching and safety net hospitals have been shown to face even greater challenges with clinical documentation improvement (CDI) than their private counterparts.[7] Educating providers to write CD depicting the true severity of patient illness was an ongoing mission of our institution, though it became a time-sensitive and urgent issue in the face of ICD-10.

Although financial concerns were at the forefront for many, hospital leaders in surgical quality believed creating a CDI and ICD-10 training curriculum to address the increasing demands on providers could have a profound impact in the arena of patient safety, liability protection in terms of documentation accuracy, and improved communication throughout the hospital. In response to the urgency of these issues, the chairman of surgery volunteered his department to lead the charge in creating and implementing a CDI curriculum. To assess the impact of the curriculum, we compared CD parameters, quality metrics, and hospital charges for surgical services before and after implementation of our CDI program.

METHODS

Development of our institution's first CDI/ICD-10 training curriculum began in the Department of Surgery in July 2013, and was presented to the whole department staff in September 2014. The curriculum was created in conjunction with an external consulting company and hospital Health Information Management (HIM) members. The curriculum was provided initially to our academic surgery department only: 71 surgeons, 27 advanced practice providers, and 50 surgery residents. The pediatric and OB/GYN departments also adopted portions of the curriculum in their CDI process. The aims of the curriculum were to improve inpatient CD and provide ICD-10 education to avert financial losses during the transition to ICD-10.

Formation of the clinical documentation improvement team and introduction of curriculum

In 2013, a total of 10 surgeons and advanced practice providers were selected to become "champions" of CDI and ICD-10 for their respective surgery division or section (cardiothoracic surgery, general surgery, ophthalmology, otolaryngology, pediatric surgery, plastic surgery, surgical oncology, trauma surgery, urology, and vascular surgery). In a series of lectures, the HIM director and CDI staff educated the surgery CDI champions about the impact of CD on severity of illness (SOI), risk of mortality (ROM), case-mix index (CMI), the DRG assignment for Medicare patients, relative value unit, and ICD-10 compliance. The effect of CD on quality metrics, billing for clinical services, reimbursement, importance of medical record documentation as a legal document, use of clinical documentation for insurance contracting, education, and research was also described in these lectures. The CDI champions agreed to provide CDI/ICD-10 education and monitor progress within their respective divisions. The chair of the Department of Surgery allotted a 0.1 full-time equivalent to each CDI champion for this effort.

Core elements of the curriculum consisted of didactic lectures, 1-on-1 provider training, case reviews, and e-learning modules. Surgery clinicians were given access to ICD-10 mobile device applications and documentation