Improving Clinical and Business Processes: Capitalizing on the Investment in Controlled Medical Terminology

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Abstract

Clinical terminologies in electronic health records (EHRs) can improve workflow, decision-making, and outcomes. We have previously described how an interface terminology in an ambulatory EHR system at Weill Cornell improved searching and documentation of clinical problems and billing workflows. As the terminology has achieved greater use and acceptance, Weill Cornell has taken advantage of additional benefits of structured data entry using an interface terminology mapped to standard administrative classifications and reference terminologies. Patient problems are now captured with sufficient detail for use in advanced searching of clinical content for accurate, updated information about diagnoses, treatment guidelines, and medications at the point of care. Dynamic analysis tools leverage terminologies to help optimize care and resource allocation by demonstrating Pay-for-Performance and other quality measures in near real-time. Medical necessity checking verifies that documentation justifies a particular procedure, minimizing rejected claims and write-offs saving Weill Cornell millions of dollars a year. However, automated coding and eligibility applications raise a concern about the potential for fraud, which can hamper the adoption of EHRs. Authoritative validation of maps between interface terminologies and administrative codesets is one important step in ensuring accuracy and validity of clinician-initiated coding and, reducing the risks of improper coding and allegations of intentional fraud. Correctly leveraging controlled medical terminology (CMT) to gain value on investment requires the collaboration of users, vendors, and health information management professionals.

Introduction

The Weill Cornell Physician Organization is a multi-specialty faculty practice in Manhattan with over 750 faculty members and approximately 750,000 annual visits. The Weill Cornell’s ambulatory EHR is EpicCare. The IMO® Personal Health Terminology™ (PHT) interface terminology was integrated with EpicCare’s diagnosis master-file in June 2004. PHT contains clinician-friendly terms for use in the medical record. Up-to-date validated maps to ICD-9-CM codes facilitate billing, and maps to SNOMED CT enable clinical decision support and enhanced analysis. The terms and maps are updated when there are new regulatory releases of codesets, eliminating the need for costly manual updates by Weill Cornell. In a survey of physicians who used EpicCare, a majority indicated that using the PHT-enhanced master file reduced time spent searching for terms, improved the accuracy and completeness of clinical documentation, and increased satisfaction with the EpicCare EHR system. Following-up on this initial investment in controlled medical terminology, Weill Cornell has explored adding additional functionality which was possible once the structured terms and cross-maps were available within the EHR.

Collaborative Terminology Solutions

Content Searching

Enhanced searching and documentation improve the overall EHR experience, but they are only a few of the potential benefits of capturing patient information with controlled medical terminologies. Terminologies can be used to index authoritative health content and drive queries used in search portals. Weill Cornell, Intelligent Medical Objects (IMO), Epic Systems Corporation, and content providers such as Elsevier and DxPlain™ are all collaborating to provide rapid, one-click searching for trusted health information.
based on items in the patient record. By including patient-specific codified problems, gender, and age, these searches at the point of care allow clinicians to quickly and easily find synopses of relevant and up-to-date information on prevention, diagnosis, and treatment to improve clinical care. Content providers can tag content with ICD-9-CM, SNOMED or PHT to achieve clinically relevant matches with the point-of-care search.

**Clinical Intelligence and Pay-For-Performance**

When structured data entry and terminologies are used throughout the clinical workflow, all aspects of care are recorded and encoded, including reason for visit, past medical history, diagnoses, diagnostic tests, medications, and therapeutic procedures. Clinical intelligence tools can integrate and analyze the information to look for patterns in a health care organization. Weill Cornell is currently implementing clinical intelligence tools in collaboration with IMO and Qliktech. Through clinical intelligence, organizations can look at performance on an enterprise-wide scale. What diagnostic tests were used most often in patients with a certain condition? What were the results of those tests? What treatments were used? Integrated quality measures like Pay-For-Performance, JCAHO criteria, and HEDIS measures are now available quickly with the capability to focus on individual data elements or even modify the queries ad hoc. For example, it is important not only to know whether diabetic patients have HgbA1c levels less than 9%, but whether those diabetic patients who also have any form of hypertension (based on the SNOMED CT hierarchy) are being treated with an angiotensin converting enzyme inhibitor (ACE-I) as per currently accepted evidence-based clinical guidelines. Instantly identifying those patients, and their providers/departments with the click of a button can be a powerful tool for improving care. Using CMT-enabled analytical tools, organizations can determine how well clinicians are following guidelines for prevention and treatment, justify pay-for-performance and quickly answer questions from payors.

**Medical Necessity**

The rejection of claims due to patient ineligibility is a major source of frustration and expense for clinicians, health care organizations, and patients. It can be difficult to verify eligibility requirements when patient conditions are recorded in free text. Rejections are frequently due to incorrect or incomplete coding rather than true ineligibility. When a patient’s presenting problems, past medical history, and current problems are all captured with the same clinical terminology, verifying eligibility is easy. Through the use of interface terminology mapped to validated ICD-9 codes and Medical Necessity tables
in EpicCare, Weill Cornell can easily check a list of patient conditions and intended procedures against applicable Local Medical Review Policies (LMRPs)/Local Carrier Determinations (LCDs) and National Coverage Determinations (NCDs) to determine eligibility. Prior to enabling medical necessity checking at the point of care, Weill Cornell was losing millions of dollars in unpaid claims. After implementing medical necessity checking for the top laboratory tests, documentation has improved significantly and the number of rejected claims has dropped precipitously.

Authoritative Validation
Fraud is a serious and justifiable concern with the use of computer applications that provide automated selection and use of administrative codes for billing. Inadvertent use of an incorrect map from a clinical term to a billing code within a health information system such as an EHR can result in the repeated use of an improper code. Such a mistake could trigger an audit by the U.S. Health and Human Services (HHS) Office of Inspector General (OIG). Does the repeated use of a set of improper codes constitute sufficient evidence for intentional fraud? Clinicians and health information management (HIM) professionals acknowledge the risk of allegations of fraud, which represent a significant barrier to the adoption of health information technology. The American Health Information Management Association (AHIMA) has been a leader in addressing concerns about computer assisted coding. The premier health information management professional organization, AHIMA is validating the maps from IMO’s terms to administrative code sets for accuracy. Validation by an authoritative HIM organization can help reduce the risks for allegations of fraud and provide a level of security for both billing and the enhanced functionalities which depend on the correctness of these maps.

Outcome

- Improved clinical decision making through easy and rapid access to relevant, trusted health information
- Improved business processes through improved analysis of clinical practices and outcomes through the use of clinical intelligence and pay-for-performance reporting
- Reduced loss of revenue from rejected claims due to more thorough structured recording of patient problems and eligibility verification
- Improved coding and reducing risks of billing fraud through validation by HIM experts
- Increased value on terminology investment

Educational Goals

- Learn the benefits of using a physician friendly comprehensive diagnostic vocabulary at the point-of-care and throughout the clinical-business workflow
- Appreciate the numerous benefits of using terminologies that are mapped to administrative and reference vocabularies, such as generation of billing codes, improved content searching, clinical analytics, quality improvement, and medical necessity
- Understand concerns about billing fraud due to computer assisted coding and how to mitigate these risks
- Appreciate the importance of collaboration in realizing the full benefits of using clinical terminologies

Who Should Attend

- Persons interested in using or learning more about clinical terminologies in an EHR
- Persons interested in data quality and use of structured data output from CMT-enabled data warehouses or applications
- Developers of clinical terminologies, terminology applications, EHRs, or computer-assisted coding applications
- Persons interested in expediting the progress of computer-assisted coding