Development of a Hematology/Oncology ICD-10 Documentation Job Aid

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Abstract

Conversion to the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) was mandated for October 1, 2014, but was delayed by one year. ICD-10 accommodates newly developed diagnoses and procedures and is expected to help measure quality of care. When implemented, it will impact oncology practices because of conversion costs, loss of productivity, and billing problems. Clinical documentation must meet the specificity required by ICD-10 codes or risk denial of payments, which are projected to dramatically increase. In preparation for the now delayed conversion, the ICD-10 transition team at the Seattle Cancer Care Alliance (SCCA) examined the ICD-10 codes for primary hematology/oncology diagnoses and comorbidities of cancer and therapy seen at our institution to identify the need for and feasibility of developing a printable job aid to guide clinical documentation. We found that the variable complexity of ICD-10 codes in hematology/oncology frequently requires nonintuitive specificity likely to be overlooked without prompting. We were able to develop a succinct and facile documentation aid usable in both electronic and printed forms that includes all hematology/oncology diagnoses and the comorbidities most frequently seen in our multidisciplinary institution. This document is organized in a notebook format for easy review and will be continuously improved with feedback from practitioners. It is available for free download from the SCCA Web site. (J Natl Compr Canc Netw 2015;13:435–440)
imbursement claims; and provide a better understanding of the value of new procedures. However, the conversion to ICD-10 will be disruptive and costly. A 2004 RAND Corporation analysis projected a potential national cost savings of between $700 million and $7.7 billion over 10 years with conversion, with an implementation cost of between $430 million and $1.19 billion. Other studies have estimated higher implementation costs ranging from $3.2 to $13.9 billion.

Some conversion costs are one-time and infrastructural (eg, for IT systems upgrades, training, and contract renegotiation); however, a large fraction of the costs will be attributable to sustained productivity losses as providers spend more time on documentation. A 2008 study on the cost impact to medical practices identified increased documentation requirements as the largest single added cost. A 2014 report predicted that the costs to meet ICD-10 requirements will range from $56,000 to $226,000 for a small practice (3 physicians, 2 administrative staff); $213,364 to $824,735 for a typical medium-sized practice (10 physicians, 6 administrative staff, and 1 coder); and $2,017,151 to $8,018,364 for a large-sized practice (100 physicians, 64 administrative staff, and 10 full-time coders). ASCO estimates that hospital costs for ICD-10 implementation will be $1.5 to $5.0 million for a 400-bed or greater institution and between $500,000 and $1.5 million for facilities between 100 and 400 beds.

In addition, the breadth of the changes and the specifics required in the ICD-10 codes will likely result in a sustained increase in time spent coding that cannot be eliminated by electronic templates or electronic medical record (EMR) systems. This estimate is consistent with the experience at a Canadian hospital, where productivity decreased for more than a year after ICD-10 implementation in 2002. Insufficiently detailed documentation will also slow payments and affect revenue cycle. Accounts receivable days may increase by 20% to 40% after implementation, and a shortage of coders trained in ICD-10 coding may further aggravate the transition. Concern exists regarding the ICD-10 transition, particularly regarding the impact on productivity, revenue, coding, and documentation, despite the potential benefits and progress that was made leading up to the anticipated launch in 2014.

Recently published data confirm that ICD-10 will have disparate effects across medical specialties. One recent analysis suggested that hematology and oncology may have an easier transition than other specialties because of less convoluted mappings between ICD-9 and ICD-10 that can create inaccuracies and coding errors. These convoluted mappings will have effects on data reporting, particularly on public health and oncology research. This same group also identified the potential for unanticipated financial costs from information loss in roughly 3% to 5% of submitted oncology codes. Another study identified gaps in documentation to support ICD-10 oncologic diagnoses in 25% of cases reviewed across an integrated health facility. These gaps were largely driven by failure to document anatomic locations with the detail required by ICD-10. Inadequate documentation was much less common in hematologic disorders.

Documenting with the specificity required for ICD-10 will be particularly disruptive for hematology/oncology practices because changes vary from easy additions, such as specifying laterality, to more complex and sometimes unpredictable details in disease subtypes. Consequently, providers will require cueing via job aid or software applications. EMR vendors are working to add diagnostic assistant tools to guide providers through the hierarchical structure of ICD-10 codes to maintain diagnosis lists. However, whether the software will be available or efficient at the time of eventual conversion is uncertain, and many providers currently lack an EMR.

CMS guidelines emphasize updating EMRs, training coders and providers, and providing job aids for the conversion. As part of preparation for the anticipated 2014 conversion, the Seattle Cancer Care Alliance (SCCA) performed an analysis of practice patterns and charges to address the scope of the change and develop the tools for conversion. As an offshoot of this process, we have created a compact set of printable job aids for ICD-10 documentation that cover a broad range of primary hematologic and oncologic diagnoses, and a select subset of common noncancer ICD-10 comorbidity codes. This job aid is available for free download (http://www.seattlecca.org/SCCA-ICD-10-Documentation-Aids.cfm). This manuscript describes the process of its creation and the job aid itself.

Methods and Results

Development of an ICD-10 Conversion Job Aid

SCCA is member of NCCN and is an NCI-designated comprehensive cancer center operated as a jointly
governed entity by the Fred Hutchinson Cancer Research Center, University of Washington Medicine, and Seattle Children’s Hospital. The institution has an EMR and converted to electronic ordering in the outpatient clinic in late 2014. The long-term vision of the institution is to establish and maintain an electronic ICD-10 compliant diagnosis list for propagation into clinical notes automatically or using a keyboard short cut. This list will also link ICD-10-CM codes to electronic orders. We are hopeful that our EMR vendor will provide software tools that make list creation and maintenance easy. However, there is a risk that it will not be, and providers may desire or need to incorporate diagnosis-clarifying text into their notes independent of electronic aids. Consequently, our ICD-10 transition team assessed the feasibility of a paper-based diagnostic assistant tool that could provide the necessary ICD-10 details in a quickly navigated format. To begin this process, we examined feasibility of job aids for the ICD-10 codes for 3 diagnoses commonly seen at SCCA: lung cancer, colon cancer, and myeloid leukemia. The codes for these diagnoses were formulated into cards (Figure 1). This exercise showed that the diagnosis codes could be packaged for quick reference and made it clear that the cards would fulfill a critical need at conversion. The diagnostic cards illustrate some of the major changes in ICD-10 (Figure 1), and clearly show that the structure of ICD-10 codes is very different from that of ICD-9 codes. The ICD-10 structure contains 7 alphanumerical characters organized hierarchically. There are up to 3 characters to the left of the decimal denoting a category, and 4 characters to the right of the decimal describing subcategories. To the left of the decimal, the first character is an alpha character, the second a numeric, and the third either alpha or numeric. Malignancy codes begin with the letter C or D.

The cards exemplify some of the necessary documentation changes in oncology. Examining the lung cancer card (Figure 1A), it is clear that the changes are fairly straightforward, and could probably be assimilated quickly. Location is specified in the tenths place (yellow) and laterality in the hundredths. The card also reminds the provider that tobacco use must be documented. Colon cancer (Figure 1B) lacks laterality but requires precise specification of the disease location, which should be something provid-

ers can integrate into their documentation routine. However, it will be more challenging to recall that specific locations such as the hepatic flexure must be called out from the ascending and transverse colon. Cancers of the small intestine, rectum, and rectosigmoid junction each get their own independent code (C17, C19, and C20, respectively), which a provider will also need to recall. “Intestinal carcinoid” is also identified by a unique code. Finally, examination of the myeloid leukemia codes (Figure 1C) reveals descriptions that are complex and detailed, including a chromosomal abnormality in one code (11q23). This final example is critical for understanding the
challenges of transition to ICD-10. Some disease descriptions will not spring to mind during documentation without a reminder to include them. Because incomplete documentation will require remediation before submitting charges, a real-time job aid that provides cuing could mitigate productivity loss.

From the perspective of developing a job aid, the design was felt to be sufficiently efficient in providing both textual guidance and easy derivation of complete ICD-10-CM codes. It was also considered aesthetically acceptable. Therefore, development of the diagnosis cards was expanded to all primary oncology/hematology diagnoses. The development of the next round of cards identified additional challenges for oncology providers. The first is the relative complexity of describing malignancies such as lymphoma, which require both the disease type/grade in the tenths decimal place and location of adenopathy in the hundredths (Figure 2A). A second challenge is the extensive anatomic descriptions used for some malignancies, such as neuroendocrine tumors and melanoma (Figure 2B, C). A third challenge is that many disease groups have unintuitive organization, including myeloproliferative disorders, which are grouped in 5 different locations: essential thrombocytosis in D45, polycythemia in D46, myelofibrosis in D75, chronic myelogenous leukemia in C92, and chronic myelomonocytic leukemia in C93. Sarcoma is likewise spread into at least 5 groups.

Job Aid Description
At the time of writing, we have organized 140 primary hematology/oncology diagnoses in a notebook format for easy perusal. The document is available in a PDF for printing or use on a computer and is organized by disease type, which roughly follows ICD-10 organization. However, some organizational changes were included to allow more intuitive navigation; for example, lymphoma and leukemia are divided by cell type, plasma cell diseases are grouped at the end of the lymphoma group, myelodysplastic syndrome is grouped with leukemia, and sarcoma includes the various types of soft tissue and bony neoplasms seen by oncologists. Each individual card is organized to allow easy derivation of a complete ICD-10 code for providers wishing to attach a code to a document. Some cards include cues for accessory codes that will be required (eg, smoking for head and neck cancer or chemotherapy exposure for leukemia). Text was added in some circumstances when “other” categories include

Figure 2 ICD-10 cancer diagnosis cards illustrating documentation complexity for (A) follicular lymphoma, (B) malignant neuroendocrine tumors, and (C) melanoma.
particular disease subtypes, such as C85.8, “Other specified types of non-Hodgkin lymphoma,” which includes primary effusion lymphoma. Cards have also been edited to draw attention to particular common diagnoses that are crowded among less common, but not rare, disorders. For example, essential thrombocytosis and monoclonal gammopathy are bolded on the card, “Other neoplasms of uncertain behavior of lymphoid, hematopoietic, and related tissue.” Our job aid also includes 4 cards for detailing sites of metastatic disease and a card for metastatic disease of unknown primary site. There is an index for each diagnosis that includes a disease code and page number.

**Development of Comorbidity Cards**

Another challenge of ICD-10 conversion for hematology/oncology providers is the documentation of disease side effects and complications surrounding treatment (eg, chemotherapy-induced neutropenia, fatigue, anemia of chronic disease), and of nonspecialty codes (eg, diabetes, hypertension). These comorbidities will be assessed and treated by oncologists and documentation will need to support the charges associated with doing so. To identify comorbidity codes that are likely to need an ICD-10–compliant description, our transition team extracted all nonprimary ICD-9 charges submitted in 2013. Codes were sorted by frequency. Each code was assigned to 1 of 16 categories and then individually mapped to an ICD-10 code manually. As previously mentioned, the intent was to create easily navigated, visually appealing cards that provide the specific language to use when describing a comorbid diagnosis to justify a charge.

The development of comorbidity cards presented additional challenges beyond those seen in the primary diagnoses. It was immediately apparent that these diagnosis codes range from concise to extraordinarily expansive. For example, there are more than 50 different codes for migraine headache, 25 for mineral metabolism, and more than 40 for type 2 diabetes. Codes for expansive cases were condensed to those that would best cover what is seen at SCCA. An example of a condensed diagnosis card is shown for migraine in Figure 3A. For type 2 diabetes, only a few codes are provided—it was felt that it would not be useful for providers to be presented the full code set for type 2 diabetes. However, keywords are provided to guide electronic searches that match the language of ICD-10 (eg, kidney, ophthalmic, neurologic). Most of the comorbidity diagnoses could be mapped without extensive expansion of the cards. Several codes were redundant and required clarification from coders regarding which to include (eg, K21 for gastroesophageal reflux disease or R12 for heartburn). One of the strengths of the SCCA comorbidity cards are the sections covering drug side effects and disease-related effects likely to be encountered by hematology/oncology practitioners. A sample of drug-induced comorbidity cards are shown in Figures 3B, C, and D. In total, the current version of the

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**MIGRAINE**

G43.009: W/O AURA, NOT INTRACTABLE W/O STATUS MIGRAINOSUS

G43.109: W/AURA, NOT INTRACTABLE W/O STATUS MIGRAINOSUS

G43.709: CHRONIC MIGRAINE W/O AURA, NOT INTRACTABLE W/O STATUS MIGRAINOSUS

G43.829: MENSTRUAL MIGRAINE, NOT INTRACTABLE W/O STATUS MIGRAINOSUS

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**AGRAINOCYTOSIS DUE TO NON-CHEMOTHERAPY DRUG**

D70.2

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**OTOTOXIC HEARING LOSS: DRUG INDUCED**

H91.09

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**DRUG (OPIATE) INDUCED CONSTIPATION**

K59.09

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**Figure 3** ICD-10 diagnosis cards for comorbidities seen at the Seattle Cancer Care Alliance. (A) Subset of migraine diagnoses. (B, C, D) Examples of common drug-induced comorbidities.
comorbidity group contains 126 indexed cards in 16 comorbidity sections.

Conclusions

ICD-10 conversion, now formally scheduled for October 1, 2015, will create numerous challenges for hematology/oncology providers. Documentation must contain details sufficient to support ICD-10 codes that are at times highly specific. Incomplete documentation will create risk for denial of payment. A 2014 report has demonstrated that coding education and support tools in radiation oncology improved coding accuracy in ICD-9.20 We have developed a freely downloadable job aid that is designed for the hematology/oncology specialist. This tool, available in PDF format, can be printed or searched electronically for key words. It includes diagnosis cards to assist in including necessary details for all primary hematology/oncology diagnoses, common disease and treatment-associated complications, and comorbid diagnoses frequently seen at the SCCA. We believe this focused diagnosis set will be very helpful to oncologists. Existing Web-based diagnosis assistant tools tend to return an overwhelming number of choices, which display in a long list and require time and effort to sort through.

Our job aid will be continuously developed. This project has been supported by the establishment of an SCCA physician champion (D.B.M) for the ICD-10 transition. The champion developed the content and design in collaboration with individual oncology disease groups and SCCA coders during a period of dual-coding from February to April 2014, meeting individually with each. This process will repeat in 2015 when our disease group physicians provide feedback to the physician champion after using the job aid during another dual-coding period. SCCA has committed coder, IT, and physician champion resources to further develop the content, look, and feel of this tool beyond the transition scheduled for October 1, 2015. It is our hope that the efforts and insights gained with our effort to prepare for the delayed 2014 transition in development of this tool will assist the practice community during the planned 2015 transition, allowing provider effort to remain focused on patient care.

References

2. Office of the Secretary, HHS. Administrative simplification: adoption of a standard for a unique health plan identifier; addition to the National Provider Identifier requirements; and a change to the compliance date for the International Classification of Diseases, 10th Edition (ICD-10-CM and ICD-10-PCS) medical data code sets. Final rule. Fed Regist 2012;77:54663–54720.
3. Office of the Secretary, HHS. Administrative simplification: change to the compliance date for the International Classification of Diseases, 10th Revision (ICD-10-CM and ICD-10-PCS) medical data code sets. Federal Register 2014;84:5128–5134.