Advancing the Academic Transition to ICD-10-CM/PCS

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On January 16, 2009, the Department of Health and Human Services published the final rule for ICD-10-CM/PCS adoption, setting a compliance date of October 1, 2013. Although more than a year has passed since the rule was published, many educators continue to have questions regarding how academia will meet the challenges of transitioning ICD-10-CM/PCS into the HIM curriculum.

This practice brief is a follow-up to the April 2009 brief "Transitioning to ICD-10-CM/PCS-An Academic Timeline" and provides answers to some of the questions being asked.

The Impact on Anatomy and Physiology Courses

Coding in ICD-10-CM/PCS requires a solid foundation in anatomy and physiology. The code set's greater level of detail and specificity requires a greater understanding of anatomy and physiology than is currently necessary for ICD-9-CM. Students will be required to have an in-depth understanding of the location of various anatomical parts such as nerves, blood vessels, bones, muscles, and ligaments.

The examples in the sidebar "Anatomy and Physiology Coding Examples" below illustrate the importance of a solid foundation in anatomy and physiology when coding with ICD-10-PCS.

In order to ensure HIM students have the in-depth knowledge needed, academic institutions should review what is currently being taught in anatomy and physiology courses by obtaining a copy of current syllabi or meeting with instructors. If HIM students are currently required to take only a basic anatomy and physiology course, prerequisites may need to be changed requiring students complete advanced courses.

Additionally, if anatomy and physiology is taught by an HIM instructor and not an instructor with a biomedical science background, institutions should consider whether or not the HIM instructor has the anatomy and physiology knowledge level required for ICD-10-CM/PCS.

Academic institutions should also review when anatomy and physiology courses are completed. Many institutions identify time frames when a course is transferable. Some may elect to test the student's retention of knowledge before accepting a course, requiring the student obtain a certain score before the transferable course is accepted.

Program directors should consider placement of the anatomy and physiology course within the curriculum. Programs approved by AHIMA and the Commission on Accreditation for Health Informatics and Information Management ensure proper alignment with coding courses. However, institutions should explore requiring successful completion of anatomy and physiology courses before enrollment into coding courses.

Finally, coding educators should begin or continue to facilitate increased application of anatomy and physiology in coding courses to enforce and increase student knowledge.

Medical Terminology Requirements

The increased level of detail and specificity of ICD-10-CM/PCS also requires more detailed knowledge of medical terminology. For example, ICD-10-CM classifies open fractures using the Gustilo open fracture classification. Coders are not required to know or understand this terminology in ICD-9-CM.

Academic institutions should explore expanding medical terminology courses beyond the basics, addressing more details regarding terminology for coding procedures. If students take a generic medical terminology course, institutions should check the syllabus to determine if the content is adequate. Institutions should consider adding a lab hour onto the coding courses to go over the root operations and approaches used in ICD-10-PCS.

An introduction to the definitions of the current 31 root operations and seven approaches used in ICD-10-PCS will provide students with a solid foundation when learning ICD-10-PCS coding. A thorough understanding of these definitions is a significant factor in understanding ICD-10-PCS coding.

Careful consideration should also be given to the placement of the medical terminology course in the curriculum to ensure students are prepared to take it in a timely manner within the program. This course should also be placed before coding classes in the curriculum to maximize the learning potential.

Increased Knowledge in Pathophysiology

Most medical terminology, anatomy, and physiology courses cover a few of the most common disease conditions, but coding warrants a deeper understanding of disease processes. This is no exception with ICD-10-CM, as code selection and terminology are expanded and the codes are more specific. It is more important than ever for coders to understand diagnostic findings, physician orders, and test results, recognizing disease conditions that may not be explicitly stated elsewhere in the record.

The required pathophysiology or disease mechanism courses may or may not be exclusive to HIM students. Institutions should review what is taught in the course by obtaining a copy of current syllabi and meeting with the instructors. Many pathophysiology instructors are not aware of the knowledge level HIM students require. Students should also understand the course's importance and role to help them understand the knowledge base that should be obtained from such a course.

As with anatomy and physiology courses, critical attention should be paid to when students complete pathophysiology courses. Institutions should identify the allowed time for transferable courses and consider requiring a placement test before accepting previous credit.

Some pathophysiology courses may have prerequisites, such as anatomy, physiology, or chemistry. For this reason, careful consideration should be paid to the placement of the course in the curriculum to ensure students will be prepared to take it in a timely manner. It is also important to place the course in the curriculum either before or during coding classes to maximize the learning potential for students.

Coding classes should review disease processes learned in pathophysiology, indicating the significance in coding scenarios. For example, a class activity might involve reviewing abnormal lab results and discussing the disease conditions that might occur with such abnormalities. Documentation of this may then be sought in other chart documentation, and if nothing is found, the physician query process could be reviewed.

Diabetes mellitus and its associated complications is an example of a disease process that is important in ICD-10-CM, as it was in ICD-9-CM. In order to code this condition correctly, the student must identify the type of diabetes, any body systems affected, and what complications are affecting each body system. Without understanding the causes of diabetes mellitus and its effects on the rest of the body and associated conditions, a student may not recognize the diabetic complications.

A coder's role goes beyond simply applying a code to the final diagnosis on the discharge summary. Coders must investigate the entire chart and ensure that the documentation reflects the severity, which requires an in-depth understanding of disease processes. The expansion and specificity of ICD-10-CM further necessitates this understanding.

The Impact on Other HIM Classes

The ICD-10-CM/PCS transition will affect courses throughout the entire HIM curriculum. Therefore, instructors will need to transition scenarios from the old (ICD-9-CM) to the new (ICD-10-CM/PCS) classification systems.

Domains for the HIM associate degree entry-level competencies and the HIM baccalaureate degree entry-level competences will be affected as described in the following sections.

Breaking down the Transition by Phase

Academic programs can incorporate ICD-10-CM/PCS into the HIM curriculum by breaking down the transition into three phases: preparation, hybrid, and full implementation. Following is a brief description and time frame for each phase.

Phase 1-Preparation
The preparation phase is the current academic school year (date students began their program), which began in August 2009. At this time, academic institutions should broadly be considering the impact of the ICD-10-CM/PCS transition on programs and formulating plans for transitioning the curriculum to the new classification systems.

Phase 2-Hybrid
The hybrid phase will begin with the academic school year starting in August 2010. In this second phase, educators will face the challenge of incorporating both classification systems into an already full academic schedule. There will be numerous factors to consider, including course content, cost of additional materials, and timing of classes.

Phase 3-Full Implementation
For associate and baccalaureate degree programs, phase 3 will start with the August 2011 academic year; for coding certificate programs it will begin with the August 2012 academic year. This phase is the final stage of the curriculum change, with ICD-10-CM/PCS being taught as the current classification system and ICD-9-CM as a legacy system.

More detail regarding each of these academic phases is available in the April 2009 practice brief "Transitioning to ICD-10-CM/PCS-An Academic Timeline."

Domain I: Healthcare Data Management

Introduction to HIM provides an introduction to the health information management field and its role in healthcare. Going forward, instructors should consider introducing the purpose and need for transitioning to ICD-10-CM/PCS, including discussions of the HIPAA 5010 transaction standard and ICD-10-CM/PCS regulations. Further, explanation could be provided regarding the impact ICD-10-CM/PCS will have on reimbursement and data collection.

Instructors may also consider introducing students to the various healthcare professionals and outside entities they will interact with as HIM professionals. Special emphasis could be placed on discussion of the revenue cycle and how ICD-10-CM/PCS will assist in clarifying diseases and procedures to unique codes.

Potential student activities include determining methods to educate physicians and other healthcare providers on the need for quality documentation, its effect on reimbursement, and the need for continuous quality monitoring and reporting.

The **Records Management** course includes the subdomains "monitor and apply organization-wide health record documentation guidelines" and "maintain the accuracy and completeness of the patient record as defined by organization policy and external regulations and standards."

ICD-10-CM/PCS and the need to create reports based on the legacy classification system provide the opportunity to design new student assignments. For example, students can practice composing a trend analysis report where some of the data are presented as ICD-9-CM with the 2013 data presented as ICD-10-CM/PCS. Being able to align old and new coding definitions into a single report for a non-HIM audience will be a valuable classroom lesson.

Instructors could also encourage students to assist in forms design transition work, because forms such as super bills will need to be redesigned. The greater code specificity will also impact data registries and research databases, providing new opportunities to discuss this impact with students.

In the **Clinical Classification Systems (ICD Coding Systems)** course, coding instructors currently reference coding timelines for the past and present, but future coding timelines should also be referenced with the transition to ICD-10-CM/PCS.

Due to the greater level of specificity of ICD-10-CM/PCS, there will be a greater need to use "authentic coding" in the coding labs; that is, coding from actual charts and reviewing the entire health record to ensure capture of all diagnosis and procedure codes. Instructors should begin using and applying ICD-10-CM/PCS language, conventions, and guidelines in accordance with the educational timeline published in the April 2009 practice brief "Transitioning to ICD-10-CM/PCS-An Academic Timeline."

Program directors and coding instructors might want to consider encouraging publishers to produce sidebars in disease books, coding manuals, and other materials with both ICD-9-CM and ICD-10-CM/PCS code language and descriptions.

Most **Reimbursement Methodologies** classes cover multiple payment methodologies, including the different prospective payment systems. Content for this course should be updated with information regarding the impact that ICD-10-CM/PCS will have on reimbursement, especially the inpatient prospective payment system and MS-DRGs.

Lectures and lessons on the chargemaster, claims management, and bill reconciliation processes will also need to be updated with ICD-10-CM/PCS information. Instructors should consider the possibility of a collaborative learning experience by converting current charge tickets to ICD-10-CM/PCS. Emphasis could be placed on clinical documentation analysis using the health record as the foundation of code selection and validation.

Domain II: Health Statistics, Biomedical Research, and Quality Management

Health Statistics courses cover data for clinical indices, databases, and registries in addition to analysis and presentation of data for healthcare decision making (e.g., quality management, utilization management, and risk management). With the transition to ICD-10-CM/PCS, databases and registries will be updated to accept ICD-10-CM/PCS codes and may also need to store both ICD-9-CM and ICD-10-CM/PCS codes. This will have an effect on the analysis and presentation of data, which could be reviewed with students.

Additionally, instructors should present to students the purpose and use of mappings to convert data from one code system to the other.

The typical **Quality Management** course covers analysis of clinical data. The transition to ICD-10-CM/PCS will present challenges and opportunities in the data analysis of longitudinal data, which could be reviewed with students. Instructors should consider reviewing the various Centers for Medicare and Medicaid Services' pay-for-performance plans and discuss the impact the transition will have on these plans.

Domain III: Health Services Organization and Delivery

In the **Alternative Health Records** course, students could be introduced to the effect that ICD-10-CM/PCS will have on the requirements for nonhospital health records (or alternative health records) and how the information collected for assigning ICD-10-CM/PCS codes can be derived from specialized health forms used at the various types of healthcare settings.

Domain IV: Information Technology and Systems

In **Health Technologies** courses educators will want to discuss an assessment of organization systems that will require updates as a result of the transition. IT systems require major changes to support the ICD-10-CM/PCS transition.

Instructors in these courses also should review with students the impact of the HIPAA 5010 transaction standard regulations. Whether electronic health records are covered in this course or in a separate course, instructors should discuss the impact that ICD-10-CM/PCS will have on electronic health records. The ability to extract, merge, exchange, and display reports will be necessary as information is placed in virtual, hybrid, and traditional settings.

Domain V: Organizational Resources

Course content for the **Management and Supervision** course could include the impact that the ICD-10-CM/PCS transition will have on an HIM department's development and implementation of staff orientation and continuing education programs. Many clinical staff will need a fundamental awareness of the changes to forms and ordering processes that will be required due to the conversion.

Instructors should use this course as an opportunity for students to create in-service training modules on the before and after effects of the classification transition and its impact on data collection. Additionally, discussion regarding the impact of this transition to monitoring staffing levels and productivity standards for health information functions, especially the coding function, could be incorporated.

Financial Considerations

From a program perspective, academic institutions should review program budgets and outline the plan for training coding instructors in ICD-10-CM/PCS.

Will there be budget available to send coding educators to in-person training such as the AHIMA Academy for ICD-10? If not, are there funds available for local seminars, audio seminars, or Webinars? AHIMA and other textbook publishers have ICD-10-CM/PCS resources available for educators to familiarize themselves with the new code sets.

After the initial faculty training has been determined, institutions should identify the additional resources they will need within the classroom. ICD-10-CM has some similarity to the ICD-9-CM diagnosis coding system; however, ICD-10-PCS is a significant departure from ICD-9-CM procedural coding.

Due to the increased focus on the biomedical sciences within the coding systems, institutions should consider the following:

- What additional resources are available for instructors and students?
- Are funds and space available to add or begin a health IT library of resources?
- Is it possible to place reference material on reserve in the school's library for student use?

Program directors and coding instructors know that students currently spend a substantial portion of their textbook money purchasing new code books, textbooks, and workbooks annually. In the hybrid phase (both ICD-9-CM and ICD-10-CM/PCS), students will require access to both ICD-9-CM and ICD-10-CM/PCS textbooks and code books. Some potential considerations include:

- Whether students will be required to purchase textbooks and code books for all three code sets.
- Whether students will use public domain files to access the ICD-10-CM/PCS code sets.
- Whether the school will use a vendor encoding software system. Many vendors already plan to make the ICD-10-CM/PCS code sets available within their software.
- Whether the school will use AHIMA's Virtual Lab. The lab makes available ICD-10-CM/PCS encoders in addition to the traditional ICD-9-CM encoder. Additionally, the lab has instructor resources available for ICD-10-CM/PCS navigation as well as some beginning level coding scenarios using ICD-10-CM/PCS.
- Whether it is feasible for all coding classes to be offered in a computer lab. In-class use of public domain files, vendor software, or AHIMA's Virtual Lab requires computer lab access. What options are available for open lab time for homework or additional practice outside of class time?

Additional considerations for resources to enhance the ability to meet the financial demands of teaching in the hybrid phase might include grants, vendor donations, and faculty stipends available within an educational institution.

Anatomy and Physiology Coding Examples

Coding in ICD-10-CM/PCS requires a solid foundation in anatomy and physiology due to the code set's greater level of detail and specificity. Students will be required to have an in-depth understanding of the location of various anatomical parts such as nerves, blood vessels, bones, muscles, and ligaments. For example:

- To correctly code a procedure performed on the sternohyoid muscle, students must know this muscle is located in the neck.
- To correctly code a procedure on the right hamate bone, students must know that this bone is one of the carpal bones.
- To correctly code a procedure on the superior laryngeal nerve, students must know that this nerve is a branch of the vagus nerve. (Note: the superior laryngeal nerve does not have its own distinct body part value in ICD-10-PCS, therefore by ICD-10-PCS coding guidelines the body part value is coded to the closest proximal branch identified by a body part value.)
- To correctly code a procedure on the common interosseous artery, students must know that this artery is a branch of the ulnar artery.
- To correctly code a coracoacromial ligament release, students must know that this ligament extends between the coracoid process and the acromion above the shoulder joint and therefore is a ligament of the shoulder.

Teaching ICD-9-CM and ICD-10-CM/PCS Together

During the hybrid phase, educators will need to determine how to deliver ICD-10-CM/PCS coding information in conjunction with ICD-9-CM. Determining the logistics during the hybrid phase will depend greatly on the specific institution's existing coding course structure.

With limited resources and course hours to devote to incorporating both ICD-9-CM and ICD-10-CM/PCS, instructors should consider incorporating basic information into the existing course curriculum, focusing on the following:

- The differences and similarities of the ICD-9-CM and ICD-10-CM/PCS classification structures
- The Official Coding and Reporting Guidelines for ICD-10-CM/PCS
- Root operations and surgical approaches for ICD-10-PCS
- Use of the ICD-10-PCS tables

Instructors can consider the following strategies for working with limited ICD-10-CM/PCS resources during the hybrid phase:

- If coding classes are structured in levels such as beginning, intermediate, and advanced, consider introducing ICD-10-CM/PCS material in the intermediate or advanced levels of coding education.
- Reinforce the presentation of ICD-10-CM/PCS material with delivery methods such as flash cards, fact sheets similar to the "Check Point" articles in AHIMA's *CodeWrite* electronic newsletter, and case studies.
- Solicit assistance from individuals who may be certified ICD-10-CM/PCS trainers or proficient in ICD-10-CM/PCS as guest lecturers on certain topics.
- Encourage students to create an ICD-10-CM/PCS portfolio, which should be kept up to date with the most current information. This would be especially useful for students who are graduating before the 2013 implementation date.
- Consider using the recommended detailed ICD-10-CM/PCS syllabi that were created by the academic transition workgroup. The syllabi are available in AHIMA's CourseShare, an online Web resource for HIM academic instructors. Syllabi and other ICD-10 learning packets are available at https://courseshare.ahima.org.

Reference

AHIMA ICD-10-CM/PCS Academic Transition Workgroup. "Transitioning to ICD-10-CM/PCS-An Academic Timeline." *Journal of AHIMA* 80, no. 4 (Apr. 2009): 59–64.

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