**Chapter 5**

**Clinical Terminologies, Classifications, and Code Systems**

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**Real-World Case 5.1**

Clinical quality measure developers create evidence-based standards used to assess the performance of providers in the provision of care. Developers include government agencies, accreditation organizations, and physician specialty groups among others. They select terminologies, classifications, and code sets as a way to express healthcare performance data used in the measure. For example, the National Committee for Quality Assurance (NCQA) may want to author an electronic Clinical Quality Measure (eCQM) for breast cancer screening. Using the web-based Measure Authoring Tool (MAT), NCQA decides to include mammograms as a population criterion. Having identified mammogram as one of the criteria, NCQA determines LOINC and HCPCS are necessary for the measure. Mammogram codes from these two systems are then selected to create the content for the breast cancer screening eCQM.

# Real-World Case Discussion Questions

1. What purpose do terminologies, classifications, and code systems serve in an electronic Clinical Quality Measure (eCQM)? The vocabulary value sets used by eCQMs consist of codes and terms drawn from standard vocabularies such as SNOMED CT®, RxNorm, and ICD-10-CM to represent the clinical concepts found in EHR patient data as defined by the eCQMs (e.g., patients with diabetes, clinical visit).  Providers must ensure their health IT systems either capture or can map to these codes in order to report eCQMs.

2. Why would NCQA choose LOINC and HCPCS for the electronic Clinical Quality Measure (eCQM) for breast cancer screening? LOINC provides names and codes for identifying laboratory and clinical test results or clinical observations. It standardizes names and codes for the identification of laboratory and clinical test results or observations. LOINC facilitates the exchange and aggregation of data amongst electronic systems so the data can be used for clinical care, research, and outcomes. All very important data for the breast screening and those with positive screens.

HCPCS level II standardizes the reporting of professional services, procedures, products and supplies. HCPCS Level I (CPT) provides uniform language that has accurate descriptions of medical, surgical and diagnostic services. It is designed to communicate consistent information to clinical staff, providers, accreditation organizations, payers for administrative, financial and analytical purposes. CPT II is used for performance measures.

By using both of these it seems that enough data can be collected to look at the timing of screens, the positive vs the negative number of screens and other data that may help to determine the best quality for use of the screening in a cost effective manner.

3. Why are the various types of organizations important to the development of the clinical quality measures? Many different organizations collect a variety of data that help determine the most important, effective quality measures as well as looking at the individual diseases, treatments, and care that has actually helped or hindered the patient in some way.

# Real-World Case Discussion Questions

1. Why would SNOMED CT be used to record the smoking status of a patient on an EHR template? The codes can be updated easily, a good source for reporting, ability to exchange the data easily, it is considered the most comprehensive and multilingual.

2. Why was ICD-10-CM not chosen as the system to capture smoking status? ICD-10-CM is limited to diagnostic values and would not capture all the necessary information.

3. Review the SNOMED CT codes. What else related to smoking would you recommend should be collected? Pack years or pack per day, age started smoking, associated diseases, social context related to smoking.

# Application Exercises

*Instructions:* Answer the following questions.

1. Choose one clinical terminology, one classification, and one code system mentioned in this chapter and compare and contrast its general characteristics, purpose, use, content, and structure.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Clinical terminology | Classification | Code system |
|  | Current Procedural Terminology (CPT) | ICD-10-PCS | Healthcare Common Procedure Coding System Level II (HCPCS) |
| General characteristics | AMA owns the copyright. Published annually, print, eBook, software, code usually responsibility of professional coder, based on physician documentation of services or procedure provided | Centers for Medicare and Medicaid Services is responsible for this system and its maintenance. Developed through contract with 3M health Information Systems. Twice a year updates are possible. Identifies the procedure performed by the provider (like CPT). Used as a companion to ICD-10-CM to be used by a hospital to explain a reason for the patient to be admitted and discharged for care and the inpatient procedures performed during the stay.  On discharge a professional coder assigns the ICD-01-PCS code based on physician documentation. | Two code system: Level I and level II. Level I is CPT. Level II standardizes the reporting of professional services, procedures, products and supplies. Level I Dental codes are a separate category published by the American Dental association. CMS publishes and maintains the rest of HCPCS II |
| Purpose | Identifies services rendered rather than diagnosis. Provides a uniform language with accurate descriptions of medical, surgical and diagnostic services. | Provides a system for classifying procedures performed on hospital inpatients. | Primary purpose of HCPCS II is to meet the operational needs of Medicare and Medicaid reimbursement programs. |
| Use | Designed to communicate consistent information about medical services and procedures among physicians, clinical staff, patients, accreditation organizations, and payers for administrative, financial and analytical purposes. HIPPA mandates the use of CPT in healthcare data electronic transactions for all inpatient procedures. Reported to public and private insurers. | Utilizes a unique code for all substantially different procedures. HIPPA mandated. Hospitals are required to use this to report procedures to public and private insurers. | Required for reimbursement of ambulatory services provided in healthcare settings, both physician outpatient and hospital outpatient. Also used for benchmarking, trending, planning and measurement of quality services. HIPPA mandated for describing and identifying healthcare equipment and supplies in healthcare transactions that are not identified by CPT codes. Report these services to public and private insurers. |
| Content | Includes codes, descriptions and guidelines. CPT are 5-character identifiers that represent the procedure or service the individual receives from the healthcare provider and a 2-character modifier that indicates the service or procedure has been altered by some circumstance | Contains 7-character codes and descriptions for procedures | Contains products, supplies, and services such as ambulance services, drugs, and durable medical equipment, prosthetics, orthotics, and supplies. |
| Structure | Divided into categories.  Category I includes six main sections. Category II used for performance measurements. These codes are alphanumeric consisting of 4 numbers followed by the letter F. category III is for emerging technologies, services and procedures. Alphanumeric. 4-numbers followed by the letter T. | Divided into groups. Medical and surgical sections, ancillary sections. Includes tables, indexes and definitions. Tables are alphanumeric, table lists first 3 characters and definition, lower table contains columns for remaining four characters. Index is alphabetic organized by two types of main terms, one is based common procedure names, other type is based on the value of the third character that varies depending on the section. The definitions are tied to the characters 3 through 7. Explanations and examples may also be included with the definition. | Modifiers are available to explain various circumstances of procedures and services; to enhance a code narrative in order to describe the circumstances of each procedure or service and how it applies to an individual. Divided into chapters. The index lists terms alphabetically. Drugs are not listed in the index; drugs have their own table. |

2. Search the Internet and locate information on the Common Clinical Data Set in order to determine which terminologies, classifications, and code systems **mentioned in this chapter** are used for the individual data elements in table 5.4. Duplicate table 5.4 and adds three columns. See below. Once completed, draw a conclusion about what the table shows with regards to terminology, classification, and code system use in the Common Clinical Data Set.

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria** | **Clinical Terminology** | **Classification** | **Code System** |
| Patient name | Nursing |  | LOINC |
| Date of birth | Nursing |  | LOINC |
| Ethnicity | Nursing |  | LOINC |
| Smoking status | SNOMED CT |  | LOINC |
| Medications | SNOMED CT | ICD-10-CM, | RxNorm, HCPCS Level II |
| Laboratory test(s) | CPT | ICD-O-3 | LOINC |
| Vital signs (body height, body weight, diastolic blood pressure, systolic blood pressure, heart rate, respiratory rate, body temperature, pulse oximetry, and inhaled oxygen saturation, body mass index (ratio), and mean blood pressure) | Nursing | ICF | LOINC |
| Procedures | SNOMED CT, CPT |  | HCPCS Level II |
| Immunizations | Nursing |  | LOINC |
| Assessment and plan of treatment | Nursing |  | LOINC |
| Health concerns | SNOMED CT |  | LOINC |
| Sex | Nursing |  | LOINC |
| Race | Nursing |  | LOINC |
| Preferred language | Nursing |  | LOINC |
| Problems | SNOMED CT |  | LOINC |
| Medication allergies | Nursing |  | RxNorm |
| Laboratory value(s)/result(s) | SNOMED CT |  |  |
| Care plan field(s), including goals and instructions | Nursing | ICF | LOINC |
| Care team member(s) | Nursing | ICF | LOINC |
| Unique device identifier(s) for a patient’s implantable device | CPT | ICD-10-PCS |  |
| Goals | Nursing | ICF |  |

Although I wasn’t sure whether to add more information to this chart, my research shows that SMOMED CT seems to have mapped most other areas successfully. It appears that SNOMED CT and LOINC are very important in the terminology and coding system, whereas many of the classification systems are more related to diagnosis, procedures and provider visits.

**Review Quiz**

*Instructions:* For each item, complete the statement correctly or choose the most appropriate answer.

1. If data aggregation is the goal of collecting the data, \_\_\_\_\_\_ are the best choice.

a. Classifications

b. Code systems

c. Clinical terminologies

d. Nomenclatures

2. The SNOMED CT \_\_\_\_\_\_\_\_\_ includes the semantic tag.

a. Definition

b. Preferred term

c. Synonym

d. Fully specified name

3. The \_\_\_\_\_\_\_\_\_\_\_ is a core component of SNOMED CT.

a. Identifier

b. Hierarchy

c. Concept

d. Definition

4. \_\_\_\_\_\_\_\_\_\_\_ is a nursing terminology.

a. International Classification of Procedures

b. Clinical Care Classification

c. International Classification of Functioning

d. International Classification of Diseases

5. Category I CPT includes which of the following?

a. HCPCS Level II

b. Surgery

c. Drugs

d. Durable medical equipment

6. A \_\_\_\_\_\_\_\_\_\_\_ is a set of terms representing the system of concepts for the medical field.

a. Clinical terminology

b. Code system

c. Nomenclature

d. Classification

7. ICD-10-PCS is a classification of \_\_\_\_\_\_\_\_\_.

a. Emergency room procedures

b. Nursing procedures

c. Inpatient procedures

d. Outpatient procedures

8. Which of the following developed the Diagnostic and Statistical Manual of Mental Disorders?

a. Mental Health Association

b. American Psychiatric Association

c. Mental Health Foundation

d. World Psychiatric Association

9. A classification provides clinical data to \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

a. Allow collection and reporting of healthcare statistics

b. Indicate smoking status in the Common Clinical Data Set

c. Facilitate electronic data collection at the point of care

d. Use for primary data purposes

10. The \_\_\_\_\_\_\_\_\_\_\_ is responsible for the development and maintenance of ICD-10-CM.

a. NCHS

b. CMS

c. ICD-10 C&M Committee

d. NCHS and CMS

11. The \_\_\_\_\_\_\_\_\_ is a system for classifying the topography and morphology of neoplasm.

a. ICD-O-3

b. ICD-10-CM

c. ICD-10

d. SNOMED CT

12. WHO defines \_\_\_\_\_\_\_\_\_\_\_ as a reference classification.

a. SNOMED CT

b. DSM-5

c. ICF

d. ICD-O-3

13. An accumulation of numeric or alphanumeric representations or codes for exchanging or storing information is a \_\_\_\_\_\_\_\_\_\_\_.

a. Nomenclature

b. Code system

c. Concept system

d. Data set

14. Which of the following is the standard for clinical lab test results under the Meaningful Use program?

a. CPT

b. LOINC

c. ICD-10-PCS

d. HCPCS Level II

15. HCPCS is made up of which code systems?

a. CPT and HCPCS Level II

b. Dental codes and HCPCS Level II

c. ICD-10-PCS, CPT and HCPCS Level II

d. CPT, HCPCS Level II and HCPCS Level III

16. If you were looking for a code for a medication taken orally, in which system is it found?

a. ICD-10-CM

b. HCPCS Level II

c. RxNorm

d. ICD-10-PCS

17. The \_\_\_\_\_\_\_ is responsible for development and maintenance of RxNorm

a. AMA

b. ONC

c. FDA

d. NLM

18. One of the two major groups of LOINC content is \_\_\_\_\_\_\_\_\_.

a. Clinical drugs

b. Clinical diagnoses

c. Clinical observations

d. Clinical interventions

19. The \_\_\_\_\_\_\_\_\_\_\_ is responsible for the publishing and maintaining HCPCS Level II.

a. CMS

b. AMA

c. NCHS

d. ADA

20. The \_\_\_\_\_\_\_\_ originated from federal reporting requirements tied to certification criteria found in the Meaningful Use regulations.

a. Outcomes and Assessment Information Set

b. Healthcare Effectiveness Data and Information Set

c. Common Clinical Data Set

d. Uniform Hospital Discharge Data Set

21. Home health agency process and improvement outcome measures are based on data from the \_\_\_\_\_.

a. Home Health Compare Data Set

b. Outcomes and Assessment Information Set

c. Uniform Hospital Discharge Data Set

d. Common Clinical Data Set

22. The standardized HEDIS data elements are collected by \_\_\_\_\_\_\_\_\_.

a. Acute care hospitals

b. Certified survey vendors

c. Healthcare purchasers

d. Consumers

23. The UHDDS’s core data elements were incorporated into the \_\_\_\_\_\_\_\_\_\_\_ prospective payment system.

a. Outpatient

b. Long-term care

c. Inpatient rehabilitation

d. Acute inpatient

24. Which standard is attached to the data element smoking status contained in the Common Clinical Data Set?

a. ICD-10-CM

b. HCPCS Level II

c. ICD-10-PCS

d. SNOMED CT

25. LOINC would be found in the UMLS \_\_\_\_\_\_\_\_\_\_\_\_.

a. Terminology Network

b. SPECIALIST Lexicon

c. Semantic Network

d. Metathesaurus