**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 purpose of terminologies, classifications, and code systems in an electronic Clinical Quality Measure is a way to express healthcare performance data used in the measure. They are also used, to name and arrange medical content so it can be used for patient care, measuring patient outcomes, research, and administrative activities such reimbursement.

2. Why would NCQA choose LOINC and HCPCS for the electronic Clinical Quality Measure (eCQM) for breast cancer screening?

The NCQA would choose LOINC because it is the universal code system for tests, measurements, and observations and also facilitates the exchange and aggregation of data between diverse electronic systems including the clinical laboratory information management and the HER.

HCPCS would also be chosen because of its evaluation and management services such as pathology and laboratory tests, which are all found in CPT.

3. Why are the various types of organizations important to the development of the clinical quality measures?

Various types of organizations are important to the development of clinical quality measures in order to evaluate and compare the success of various treatment plans and also performance improvement efforts for health plans.

**Real-World Case 5.2**

The 2015 Edition EHR technology certification criteria states the following:

*Smoking status*: Enable a user to electronically record, change, and access the smoking status of a patient in accordance with the standard specified.

45 CFR 170.315(a)(11).Coded to one of the following SNOMED CT codes:

* Current every day smoker. 449868002
* Current some day smoker. 428041000124106
* Former smoker. 8517006
* Never smoker. 266919005
* Smoker, current status unknown. 77176002
* Unknown if ever smoked. 266927001
* Heavy tobacco smoker. 428071000124103
* Light tobacco smoker. 428061000124105

*Objective*: Record smoking status for patients 13 years or older.

*Measure*: More than 85 percent of all unique patients 13-years-old or older seen by the eligible professional or admitted to the eligible hospital’s or critical care hospital’s inpatient or emergency department during the EHR reporting period have smoking status records as structured data.

Included in the National Learning Consortium’s resources is a quick reference guide from the American Academy of Family Physicians (AAFP) for meeting the smoking status Meaningful Use requirement. The AAFP supports the incorporation of tobacco cessation into EHR templates (AAFP n.d.). The quick reference provides guidance on what should be included in a tobacco cessation EHR template.

# Real-World Case Discussion Questions

1. Why would SNOMED CT be used to record the smoking status of a patient on an EHR template?

SNOMED CT would be used to record the smoking status of a patient on an EHR template because it is a comprehensive clinical terminology that provides clinical content and expressivity for clinical documentation and reporting.

Also, SNOMED CT’s encoded data can be sent securely during the transfer of care to other providers or to patients, the barriers to the electronic exchange are reduced resulting in improved quality of the information.

2. Why was ICD-10-CM not chosen as the system to capture smoking status?

ICD-10-CM was not chosen as the system to capture smoking status because ICD-10-CM is purposely for classification of diseases for morbidity. It was intended to classify diagnoses established by physicians at the conclusion of a patient encounter.

3. Review the SNOMED CT codes. What else related to smoking would you recommend should be collected?

# I would recommend they collect for a second-hand or a passive smoker.

# 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 - eg. Nursing Terminology

Classification - eg ICD-10-CM

Code system - eg Rx Norm

Nursing Terminology is to represent clinical information generated and used by nursing staff to communicate consistent information about nursing services.

The purpose and use is to measure progress of treatment and also for administrative, educative and analytical purposes.

The content and structure of Nursing Terminology varies for example, in each Nursing Interventions classification there is a label, name, definition, the code and set of activities to carry out the intervention.

The ICD-10-CM classifies the diagnosis established by the provider. Its purpose and use is to provide a classification of diseases for morbidity.

ICD-10-CM’s contents and structure - It contains 3 to 7 character codes and descriptions for various patient conditions. It is divided into 21 chapters, some of them are based on a body system whiles others are for certain types of conditions such as pregnancy.

RxNorm is a term used for clinical drugs and a semantic interoperability tool. It normalizes names and unique identifiers for clinical drugs, for example, the ingredient, strength and dose form for a drug.

The purpose and use of RxNorm is to allow computer systems to effectively communicate drug-related information between hospitals, pharmacies, and other organizations.

The content and structure of RxNorm is its content unique identifier RXCUI. It shows the combination of ingredient, strength and dose. These form the semantic clinical drug term type. It also has information about the branded name, clinical drug form, branded dose form and dose form.

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 |  |  |  |
| Date of birth |  |  |  |
| Ethnicity |  |  |  |
| Smoking status | SNOMED CT |  |  |
| Medications |  |  | RxNorm |
| Laboratory test(s) |  |  | 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) |  |  | LOINC |
| Procedures | SNOMED CT, CPT |  | HCPCS Level II |
| Immunizations |  |  |  |
| Assessment and plan of treatment |  |  |  |
| Health concerns |  |  |  |
| Sex |  |  |  |
| Race |  |  |  |
| Preferred language |  |  |  |
| Problems | SNOMED CT |  |  |
| Medication allergies |  |  | RxNorm |
| Laboratory value(s)/result(s) |  |  |  |
| Care plan field(s), including goals and instructions |  |  |  |
| Care team member(s) |  |  |  |
| Unique device identifier(s) for a patient’s implantable device |  |  |  |
| Goals |  |  |  |

According to the information on the Common Clinical Data Set, patient name and date of birth has no associated standard.

The Common Clinical Data Set also had SNOMED CT as Clinical Terminology, HCPCS and CPT- 4 in its classification and had LOINC, HCPCS level II and RxNorm as its code system.

Table 5.4 is an ICD-10-PSC table and an example of classification.

**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