Module 4 / The Medical Billing Process and the Use of Coding

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Explain a typical billing process and the use of coding and code sets.

The reimbursement method used by the healthcare industry is different from that used by most businesses. It stands to reason, then, that medical billing is also quite different. The medical billing cycle relies on code sets, specifically ICD-10, which have helped make the billing process consistent among the multiple parties involved. ICD codes are used by physicians, hospitals, and ***allied health workers*** to indicate diagnoses for all patient ***encounters*** . Coding and billing are interconnected with most areas of healthcare and are important to all healthcare workers and health information professionals. Diagnosis-related group (DRG), developed in the 1960s as a system to classify hospital cases, also serves an important function in the complex healthcare billing process.

Alternative version

The Medical Billing Cycle

When an individual seeks medical services, the medical billing cycle is initiated. Practice management software or hospital management software is used extensively during part or all of this cycle. The steps are explained here and displayed in a sequential chart.

Step 1

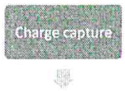
An *appointment* is made for medical services. This appointment could be in a physician's office, at a hospital, or in a clinic. Visiting the emergency department of a hospital also qualifies as an appointment.

Step 2

During *patient registration*, demographic information is collected, and accurate patient and responsible party information is taken. The recording of this information is a legal record and can be used to hold the patient or responsible party accountable for the bill for medical services. In the case of a minor, the responsible party is the responsible adult, usually the parent or guardian. Insurance information, including terms of coverage, deductibles, copayments, and coinsurance, is gathered.

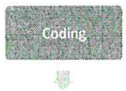
Step 3

Delivery of medical services includes diagnosis and treatment. Any laboratory tests or medical procedures are included in this step.



Step 4

Charge capture is the recording of all treatments, diagnoses, and other medical services. It is commonly done electronically but may be done on paper.



Step 5

Coding is the process of translating treatments, diagnoses, and other medical services into established alphanumeric codes so that they can be submitted as part of a claim. Coding also may be done electronically or on paper.

Step 6

A *claim submission* often is sent to a third-party payer, such as an insurance company or a public agency such as Medicare and Medicaid.

Step 7

The healthcare provider receives *reimbursement* for medical services delivered.

Step 8

Final settlement occurs when the account is settled with the patient. Copays, coinsurance, and deductibles may need to be taken into account. The patient often pays out-of-pocket for any uncovered service.

Guarantor

A new patient to a healthcare provider must provide registration information, which includes ***patient demographics*** . This information may be provided on paper or in electronic form with the assistance of office staff. The patient or responsible party (parent or guardian if the patient is a child) completes the information. Registration information is a legal record and can be used to hold the ***guarantor*** (patient or responsible party) accountable for the bill for medical services.

Medical Code Sets

ICD-10

International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10), developed by the World Health Organization (WHO), is a set of medical codes for complaints, diseases, injuries, symptoms, and abnormal findings. ICD-9 has been used widely in the United States since 1978 and is being replaced by ICD-10 to allow more specific reporting on patient care. ICD-9 code sets have become outdated because of advances in medical science and medical care and are no longer feasible for treatment, reporting, and payment processes. More precise coding translates to a more accurate billing process.

NOTE: Other code sets are used for various purposes. ***Current Procedural Terminology (CPT)*** codes, for example, are used to document medical procedures.

Diagnosis Codes

The following table compares the ICD-9 and ICD-10 diagnosis code sets. [1]

Comparison of ICD-9 and ICD-10

ICD-9	ICD-10
3–5 characters in length	3–7 characters in length
Approximately 13,000 codes	Approximately 68,000 codes
First digit may be alpha (E or V) or numeric; second through fifth digits are numeric	First digit is alpha; second and third are numeric; fourth through seventh are alpha or numeric

How the ICD-10 Code Set Is Structured

According to the American Medical Association, [1] the expanded number of characters of ICD-10 codes provides greater specificity to identify disease etiology, anatomic site, and severity.

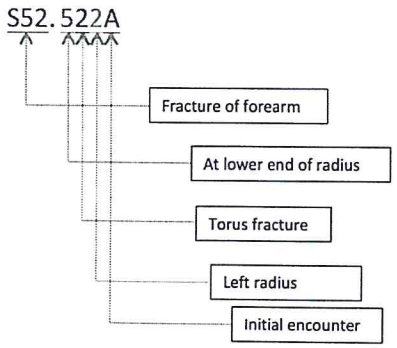
The ICD-10 code structure is as follows:

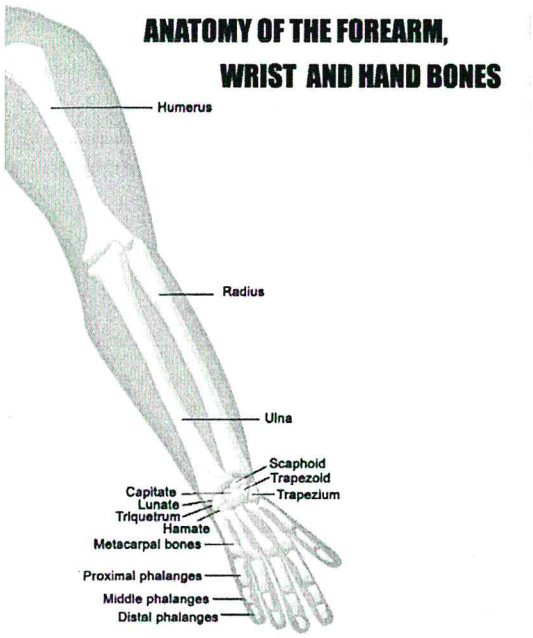
Characters 1 to 3: Category

Characters 4 to 6: ***Etiology*** , anatomic site, severity, or other clinical detail

Character 7: Extension

The following example of forearm fracture codes shows the more detailed information gained through the added digits and characters in ICD-10.





Alternative version

Diagnosis-Related Group

Diagnosis-related group (DRG) *is a system implemented by the US government for determining how much Medicare should reimburse hospitals for medical care.* A dollar amount is assigned to each diagnosis group as the basis of payment for all cases in that group, without consideration of the actual cost of care or length of hospital visit of any particular case, as a mechanism to encourage healthcare providers to reduce costs. An example of one of the most common DRGs is chronic obstructive pulmonary disease (COPD). An example of COPD is emphysema.

The following table provides examples of Medicare severity diagnosis-related groups (MS-DRGs) with relative weighting factors and geometric and arithmetic mean length of stay.

MS-DRG	Type	MS-DRG Title	Weights	Geometric Mean LOS	Arithmetic Mean LOS
020	SURG	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE	8.5033	13.4	16.8
041	SURG	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W CC OR PERIPH NEUROSTIM	2.1775	5.1	6.6

LOS, length of stay

Diagnosis-Related Group Key Points

- Developed by Robert Fetter and John Thompson of Yale University in the 1960s
- Classifies each hospital case into one of approximately 500 groups
- Patients in each category are expected to use the same level of hospital resources
- A value is assigned to each group without regard to the cost of care or duration of hospital stay

- Used by Medicare since 1982 (also used for non-Medicare patients)
- Provides information patterns that can be used by hospital administrators
- Can be used to control costs and spot treatment and billing irregularities
- A DRG is a classification based on a combination of
  - ICD diagnosis codes
  - CPT and the *Healthcare Common Procedure Coding System (HCPCS)* procedure codes
  - Complications or conditions present on admission
  - Discharge status (e.g., "Discharged to home" or "Discharged to long-term care facility")
  - Age
  - Sex

DRGs also determine that the number of days per episode be within a certain time period, which is the average length of stay for adequate and proper treatment. A DRG is used for summarizing and is much more general than a specific diagnosis.

Following is a list of the 20 highest-volume Medicare DRGs involving one-day stays for all short-term acute care hospitals in the nation in 2013. [2]

Highest-Volume Medicare DRGs in US Acute Care Hospitals

DRG Code	DRG Description
310	Cardiac arrhythmia and conduction disorders without CC or MCC
313	Chest pain
392	Esophagitis, gastroenteritis, and miscellaneous digestive disorders without MCC
312	Syncope and collapse
069	Transient ischemia
641	Miscellaneous disorders of nutrition, metabolism, fluids/electrolytes without MCC
287	Circulatory disorders except AMI, with cardiac catheter without MCC
309	Cardiac arrhythmia and conduction disorders with CC
812	Red blood cell disorders without MCC
690	Kidney and urinary tract infections without MCC
192	Chronic obstructive pulmonary disease without CC/MCC
292	Heart failure and shock with CC
683	Renal failure with CC
191	Chronic obstructive pulmonary disease with CC
066	Intracranial hemorrhage or cerebral infarction without CC/MCC
293	Heart failure and shock without CC/MCC
918	Poisoning and toxic effects of drugs without MCC
378	Gastrointestinal hemorrhage with CC

CC, complicating or comordid condition

MCC, major complicating or comorbid condition

Highest-Volume Medicare DRGs in US Acute Care Hospitals

DRG Code	DRG Description
640	Miscellaneous disorders of nutrition, metabolism, fluids/electrolytes with MCC
194	Simple pneumonia and pleurisy with CC

CC, complicating or comordid condition

MCC, major complicating or comorbid condition

learn by doing

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Alternative version

You are a registered nurse in an inpatient nursing unit at a major metropolitan medical center. You observe Dr. Popovich at a mobile workstation. He asks for your help because you are good with computers and have received training on the new electronic health record (EHR) software. He says, "I am trying to enter the diagnosis for this patient, and I don't see what I need. Can you help? This man has a lesion on his right bicep. I ordered a *wound culture* , and the lesion is infected. It is about 4.5 centimeters in diameter. It is a *carbuncle* , not a *furuncle* ."

You help the doctor navigate to the screen that shows the following ICD-10 diagnosis codes:

- L02.41 Cutaneous abscess of limb
  - L02.411 Cutaneous abscess of right axilla
  - L02.412 Cutaneous abscess of left axilla
  - L02.413 Cutaneous abscess of right upper limb
  - L02.414 Cutaneous abscess of left upper limb
  - L02.415 Cutaneous abscess of right lower limb
  - L02.416 Cutaneous abscess of left lower limb
  - L02.419 ..... unspecified
- L02.42 Furuncle of limb
  - L02.421 Furuncle of right axilla
  - L02.422 Furuncle of left axilla
  - L02.423 Furuncle of right upper limb
  - L02.424 Furuncle of left upper limb
  - L02.425 Furuncle of right lower limb
  - L02.426 Furuncle of left lower limb
  - L02.429 ..... unspecified
- L02.43 Carbuncle of limb
  - L02.431 Carbuncle of right axilla
  - L02.432 Carbuncle of left axilla
  - L02.433 Carbuncle of right upper limb
  - L02.434 Carbuncle of left upper limb
  - L02.435 Carbuncle of right lower limb
  - L02.436 Carbuncle of left lower limb
  - L02.439 ..... unspecified

Source: www.icd10data.com.

Hint

Please enter the proper ICD-10 code (format: capital letter, two digits, a period, and three digits) that Dr. Popovich should choose:

learn by doing

Hint

A patient is asked her name, address, and birth date by a hospital employee as part of the admission process. During which part of the billing cycle would this usually happen?

○ Charge capture ○ Registration ○ Coding ○ Claim submission

Nadia brings her 10-year-old son, Stefan, to the pediatrician. It is his first visit to this physician. Nadia provides all the necessary information, including phone number, address, and birth date, to the pediatrician's office. In this instance, what is Nadia's role?

○ Registrar ○ Insurer ○ Guarantor ○ Underwriter

Which of the following would most likely be a diagnosis-related group (DRG) classification as opposed to a diagnosis?

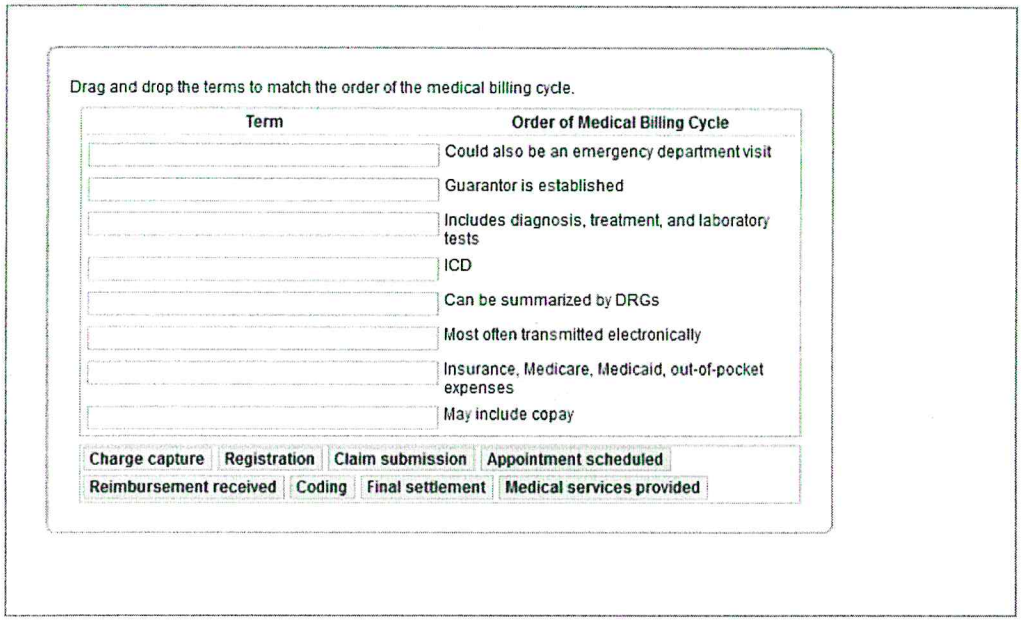
○ Pneumonia

○ Pneumonia in toxoplasmosis

○ Whooping cough with pneumonia

○ Nocardiosis pneumonia

did I get this



Graphic Credit: *Medical Billing Cycle:* CC-BY by Gary Lockhart.

References

1. American Medical Association. (2012). *Preparing for the ICD-10 Code Set.* www.ama-assn.org/ama1/pub/upload/mm/399/icd10-icd9-differences-fact-sheet.pdf.

2. Program for Evaluating Payment Patterns Electronic Report (PEPPER). (2014). *Top 20 Medical DRGs for One-day Stays for Short-term Acute Care Hospitals (updated 3-6-2014).* http://pepperresources.org/Data.aspx.