AAPC

CDEI

Certified Documentation Expert Inpatient (CDEI)®

STUDY GUIDE

2026

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Chapter 1

Purpose of Clinical Documentation Improvement

Clinical documentation improvement is a prevailing topic in the healthcare industry. Clinical documentation is the catalyst for coding, billing, and auditing and is the conduit for and provides evidence of the quality and continuity of patient care. This study guide was created to prepare experienced coders, auditors, and clinical professionals for the Certified Documentation Expert Inpatient (CDEI)® certification exam. Individuals who hold a CDEI™ credential are clinical documentation improvement (CDI) experts for inpatient services performed in the hospital setting. The competencies tested on the CDEI™ exam covered in this training include benefits of CDI programs, documentation requirements, quality measures, payment methodologies, and clinical conditions including common signs and symptoms, typical treatment, documentation tips and coding concepts.

Coding and reimbursement professionals are at the center of clinical documentation improvement. This aspect of healthcare services not only includes coding and billing, but also reaches beyond to include the documentation of quality and improvement of care. If a CDI specialist, coder, or auditor does not understand what is in the chart, it is their responsibility to learn. Having a sound foundation in pathology, physiology, medical terminology, and treatment options is a must for the CDEI™ skillset.

Clinical documentation improvement is a proactive measure. There must be consistency and attention to detail to improve clinical documentation. The focus of documentation improvement should not be solely directed on reimbursement. The central focus of all clinical documentation should be to demonstrate the quality of care provided to the patient with detail and accuracy to facilitate optimum patient care. Reimbursement for inpatient care is directly correlated to a hospital's case mix index (CMI) because a hospital's CMI reflects the severity level of procedures and care required to treat patients. Programs set up with the purpose to maximize revenue may cause compliance risks. Especially if it is determined the program is designed to lead the provider and the facility to upcoding for greater reimbursement. The more severe the condition and costly the care provided the greater reimbursement will be. Because of compliance issues, successful CDI programs focus on supporting the documented clinical conditions, treatment and management of provided conditions, and outcomes of treatment. This results in an accurate CMI, among other positive effects.

Every facility should have a designated clinical documentation expert; sometimes called a clinical documentation specialist (CDS). Job titles may vary for this position, others include quality assurance auditors, DRG validation auditor, quality improvement auditors, and clinical record auditors. Throughout this training, CDEI™ will be used to refer to clinical documentation specialist in the inpatient setting.

If the facility is relatively large, a team of individuals working together for clinical documentation improvement can manage compliance. The CDEI™ must be knowledgeable in the hospital setting in which they are working, and able to understand the requirements for coding and reporting, including following the proper inpatient coding guidelines. The CDEI™ must also be proficient in the areas of terminology, anatomy, and pathophysiology, to better understand the clinical component of conditions and treatments. This will help to accurately report procedures as well as comorbidities.

The CDEI™ will develop and monitor policies and procedures affecting the documentation process. Facilities may have different needs based on the type of hospital and the services provided. CDI should begin at the front end of all services and care; therefore, prevention of documentation deficiencies is the key. CDEIs™ will work with all individuals within the facility who play a role in the documentation process.

The Role of the Clinical Documentation Expert Inpatient

Many facilities will employ a CDEI™ to work in tandem with auditors and coding professionals. The responsibilities of the CDEI, the auditor, and even the HIM coder may overlap; however, there are fundamental differences in the responsibilities for each position.

The CDEI™ looks at the record with a different objective. The CDEI's responsibilities are more proactive and include:

- Perform preliminary chart reviews and then ongoing reviews to support clear documentation of the patient's condition. This may include:
- Clarifying the support of clinical indicators
- Clarifying the documented support of the diagnosis listed
- Clarifying POA status, when necessary
- Assign preliminary ICD-10-CM and ICD-10-PCS codes to establish a working Medicare Severity Diagnosis Related Group (MS-DRG). The coding department will verify and finalize what is reported.
- Work with the quality department to address real-time documentation deficiencies for quality measures.

- Complete concurrent queries when the documentation does not support a diagnosis or procedure, or when there is evidence of a deficiently documented diagnosis or procedure that requires a practitioner to clarify.
- Work with providers to minimize inappropriate cloning practices.
- Review denials and work with revenue cycle to respond to denials as well as work with practitioners to improve documentation going forward to prevent further denials.

These lists are not all inclusive. Depending on the CDI program, additional responsibilities may be required.

Benefits of an Effective CDI Program

Implementing a CDI program in your facility will impact different areas of the organization. Hospitals with an effective CDI program can see a reduction of denials, improvement of reimbursement based on proper code selection, and quality measurement compliance. CDI programs have been growing for the past several years and they have become accepted in different hospitals throughout the United States.

The benefits of a CDI program include:

- Supporting documentation of ICD-10-CM code selection
- Supporting documentation of ICD-10-PCS code selection
- Proper MS-DRG reimbursement
- Improvement in quality measures
- Avoidance of denials
- Superior physician communication
- Decrease in physician queries
- Opportunity for internal growth

The CDEI™ must be able to aim for the goals listed above for an effective CDI program. As mentioned previously, the overall objective is to improve documentation for patient care.

Documentation Quality

Quality assurance in patient care is only evident if it is documented in the medical record. Quality services may have been provided; however, if this is not evident within the medical record, problems may arise.

Records are scrutinized by multiple entities. Providers and facilities are being challenged to put their best foot forward in many ways. The only evidence the providers have of their veracity and the quality of care provided is the medical record.

When it comes to understanding the reimbursement methodology for inpatient services, the CDEI™ should understand Medicare Severity Diagnosis Related Groups (MS-DRGs), the CMI, and the correlating relative weights. The MS-DRG is based on the selection of the principal diagnosis, the conditions being treated throughout the stay which can be classified as complications or comorbidities (CC) or major complications or comorbidities (MCC). The type of surgical procedures patients undergo can also impact the selection of the MS-DRG and therefore the reimbursement to the hospital.

The purpose of CDI is primarily documentation improvement and integrity, which supports better patient care and facilitates continuity of care. Because the medical record is a legal document and used for more than tracking a patient's care during admission, there are additional reasons to maintain its quality.

Requests for medical records come from many sources, for different reasons other than reimbursement. For example:

- CMS contractors
- Patients
- Attorneys
- Other providers
- Workers' compensation
- Payers for precertification
- Pre-employment applications
- Military application
- SSI applications

Incomplete, cloned, or deficient records, regardless of the type of deficiency or errors providing evidence of non-compliance, are a very poor representation of the clinician or the facility. The goal for the CDEI™ is to work with the facilities, practitioners, clinicians, and staff in the entire documentation process to facilitate excellence and compliance in the documentation of all medical records entries.

In addition to facilitating high quality patient care, a properly documented medical record verifies and documents the services that are provided. The medical record may be used to validate:

- Level of care
- Medical necessity for the services provided
- Coding accuracy
- Identity of the provider

The federal government requires hospitals to participate in the Conditions of Participation (CoP) in order to receive federal money (i.e., Medicare). Therefore, each facility must adhere to standards.

According to Title 42, Chapter IV, Subchapter G, Part 428.24 (c), Condition of Participation: Medical record services:

(c) Standard: Content of record. The medical record must contain information to justify admission and continued

Chapter 3

Provider Communication and Compliance

Introduction

A proficient CDEI™ must understand the complexities of provider communication and compliance regulations in the healthcare system. This section will cover federal regulations, the Office of Inspector General (OIG), compliance plans, and physician queries.

Federal Regulations

There are many federal departments and regulations regarding fraud, abuse, and compliance that a CDEI™ must be aware of to audit, educate, and make recommendations for clinical documentation improvement. We will discuss the federal False Claims Act (FCA) and Civil Monetary Penalties Law (CMPL). CMS defines fraud as knowingly making false statements or misrepresenting facts to obtain an undeserved benefit or payment from a federal healthcare program. CMS defines abuse as an action resulting in unnecessary costs to a federal healthcare program, either directly or indirectly.

CMS examples of fraud:

- Billing for services and/or supplies that you know were not furnished or provided
- Altering claim forms and/or receipts to receive a higher payment amount
- Billing for services at a higher level than provided or necessary
- Misrepresenting the diagnosis to justify payment
- Making referrals for certain designated services that are prohibited

CMS examples of abuse:

- Misusing codes on a claim
- Charging excessively for services or supplies
- Billing for services that were not medically necessary
- Failure to maintain adequate medical or financial records
- Improper billing practices
- Billing Medicare patients a higher fee schedule than non-Medicare patients

A CMS Medicare Learning Network® article outlining fraud and abuse can be found at www.cms.gov/outreach-and-education/medicare-learning-network-mln/mlnproducts/downloads/fraud-abuse-mln4649244.pdf.

Federal False Claims Act (FCA)

Also called the Lincoln Law, the False Claims Act (31 U.S.C. §§ 3729–3733) was enacted in 1863 to combat fraud by suppliers of goods to the Union Army during the U.S. Civil War. For example, some war profiteers were shipping defective weapons, or selling sick mules and horses (and even selling the same animals multiple times) to the Union Army. Following the Civil War, the statute was little used: In 1943, amendments were made to the FCA that made it more difficult to bring action. In 1986, among news of rampant fraud in government contracts, Congress enacted an overhaul of the statute that generated new fraud investigations and actions.

The statute is in title 31 (Money and Finance), subtitle III (Financial Management), chapter 37 (Claims), subchapter III (Claims Against the United States Government) of the United States Code (31 U.S.C. §3729(a).1). The statute begins by defining seven types of conduct that create liability under FCA. It states that any person is liable who:

(A) Knowingly presents, or causes to be presented, a false or fraudulent claim for payment or approval;

(B) Knowingly makes, uses, or causes to be made or used, a false record or statement material to a false or fraudulent claim;

(C) Conspires to commit a violation of subparagraph (A), (B), (D), (E), (F), or (G);

(D) Has possession, custody, or control of property or money used, or to be used, by the government and knowingly delivers, or causes to be delivered, less than all of that money or property;

(E) Is authorized to make or deliver a document certifying receipt of property used, or to be used, by the government and, intending to defraud the government, makes or delivers the receipt without completely knowing that the information on the receipt is true;

(F) Knowingly buys, or receives as a pledge of an obligation or debt, public property from an officer or employee of the government, or a member of the Armed Forces, who lawfully may not sell or pledge property; or

(G) Knowingly makes, uses, or causes to be made or used, a false record or statement material to an obligation to pay or transmit money or property to the government, or knowingly conceals or knowingly and improperly avoids

or decreases an obligation to pay or transmit money or property to the government.

Relative to healthcare services, examples of fraud or misconduct subject to the False Claims Act include:

- Falsifying a medical chart notation
- Submitting claims for services not performed, not requested, or unnecessary
- Submitting claims for expired drugs
- Upcoding and/or unbundling services
- Submitting claims for physician services performed by a non-physician provider (NPP) without regard to incident-to guidelines

Section 3729 a.1.G, above, is known as the "reverse false claims" section. It provides liability where a person acts improperly to *avoid* paying money owed to the government.

The FCA is not violated merely by submitting a false claim, but rather by submitting (or causing to be submitted) a false claim *with knowledge that it is false*. Section 3729 b.1 defines the terms "knowing" and "knowingly" such that a person must act in deliberate ignorance of the truth or falsity of the relevant information or acts in reckless disregard of the truth or falsity of the information; however, the act states that a violation may occur *even if there no intent to defraud*.

The statute originally provided for a civil penalty of not less than $5,000, and not more than $10,000, per claim, plus three times the amount of the government damages if FCA liability was found. This amount is occasionally increased based on the Federal Civil Penalties Inflation Adjustment Act (FCPIA). Current penalties are $13,946 to $27,894 per claim. The person in violation will also be liable for the costs of the civil action brought to recover any such penalty or damages. The FCA also contains a criminal statute that can result in criminal penalties.

The FCA allows for reduced penalties (mitigation) if the person committing the violation self-discloses. §3729 a.2 states the court may assess not less than two times the amount of damages (as opposed to three times), which the government sustains because of the act of that person, if:

(A) The person responsible furnishes officials of the United States responsible for investigating false claims violations with all information known to such person about the violation within 30 days after the date on which the defendant first obtained the information;

(B) Such person fully cooperates with the investigation of such violation; and

(C) At the time such person furnishes the information about the violation, no criminal prosecution, civil action, or administrative action has commenced under this title with respect to such violation, and the person did not have actual knowledge of the existence of an investigation into such violation.

Section 3730 describes the civil actions for false claims. The provisions for *qui tam* are in §3730 b-d, which states that a person may bring a civil action for a violation for themselves and for the United States government. The FCA refers to the person bringing the *qui tam* as a relator. The relator is more commonly referred to as a "whistleblower."

The statute states, "A copy of the complaint and written disclosure of substantially all material evidence and information the person possesses shall be served on the government." This is to ensure that the government is provided with enough information to properly investigate the claim to determine if they will intervene. The complaint is filed in camera, under seal, and kept from the defendant until the court orders the complaint to be served. The Department of Justice (DOJ) then has 60 days to investigate and intervene (proceed with action) against the defendant. It can seek extensions to the 60-day period, if necessary. The government must notify the court if it is proceeding with the action (intervening) or declining to take over action. The relator may proceed with the action, alone, if the government declines.

If the government intervenes, it has the primary responsibility for prosecuting the *qui tam* action. The government may dismiss or settle the action with the defendant over the objection of the relator, as long as the relator is given a hearing and the court determines the government's actions to be fair. The relator's involvement in the litigation may be limited by request of the government or the defendant, with cause.

The reward for a relator in an action in which the government intervenes is between 15 and 25 percent of the amount recovered by the government through the *qui tam* action. The amount will depend upon the extent to which the relator substantially contributed to the prosecution. If the government does not intervene, the relator's share is between 25 and 30 percent of the amount recovered. Payment to the relator is made from the proceeds received from the defendant.

EXAMPLE

A qui tam action is brought. The government intervenes and is successful in recovering $117 million. The government decides the relator heavily contributed to the prosecution with evidence of the fraudulent activity and testimony in the case. The relator is awarded 20 percent of the proceeds, which would equate to $23.4 million.

MS-DRG to the admission. Patient demographics that may be used in the MS-DRG selection include:

- Length of time on ventilator — captured with ICD-10-PCS code (example – DRG 207 – Respiratory System Diagnosis with Respiratory Support >96 hours)
- Length of time in a coma (loss of consciousness) — captured with ICD-10-CM diagnosis code (Example – DRG 086 – Traumatic Stupor & Come, Coma <1 hour w CC)
- Gender — captured with demographic data and ICD-10-CM diagnosis (example – DRG 748 – Female reproductive system reconstructive procedures)
- Gestational age of neonate at birth — captured with ICD-10-CM diagnosis code (Example – DRG – 791 Prematurity with major problems)
- Pathology results — captured with ICD-10-CM diagnosis code (Example – DRG 722 – Malignancy, male reproductive system w MCC)

A grouper first determines if an encounter qualifies as a pre-MDC, depending on whether a patient has had a specific procedure, such as a tracheostomy, ECMO, or a major organ transplant. If the encounter qualifies as a pre-MDC, the MS-DRG can be assigned, and all other steps are disregarded. If the encounter does not qualify as a pre-MDC, the principal diagnosis is used to place the encounter in one of the 25 MDCs. Next, the grouper determines if a valid OR procedure is present. If a valid OR procedure is present, the MS-DRG will be selected from the surgical section. If there is not a valid OR procedure, the MS-DRG will be selected from the medical section. Next, the grouper examines the ICD-10-CM codes for conditions that qualify as MCCs or CCs. Lastly, the gender, the discharge disposition, and the gestational age of neonates at time of birth are factored into the MS-DRG selection. Patient age does not factor into any of the MS-DRG assignments, except for neonatal status.

Choosing the incorrect principal diagnosis can result in an incorrect MS-DRG assignment. Missing data may also result in an assignment to an MS-DRG that does not fully reimburse the hospital for the costs of providing services. Other data errors, either intentional or unintentional, could result in the admission being incorrectly assigned to a higher-paying MS-DRG. This could result in Medicare recouping some or all of those payments if an audit showed them to be in error. Both CMS and the Office of the Inspector General (OIG) routinely conduct audits to detect such overpayments.

If invalid ICD-10-CM codes, invalid age, discharge disposition, or incorrect sex are submitted on a claim, DRG 999 Ungroupable, will be assigned. The reimbursement for DRG 999 is $0. This claim will be sent back to the facility for correction and resubmission. For example, if an ICD-10-CM code is invalid, such as code I21.0 *ST elevation (STEMI) myocardial infarction of the anterior wall*, the claim results in DRG 999. The ICD-10-CM code book requires a 5th character for I21.0 to indicate which coronary artery was involved in the myocardial infarction. So, if the MI occurred in the left main coronary artery, the valid ICD-10-CM code is I21.01 *ST elevation (STEMI) myocardial infarction involving the left main coronary artery*. Always check the Tabular List in the ICD-10-CM code book to verify you have a complete code. Check for a symbol next to the code specifying the required number of characters needed for a valid code, such as the 5th character symbol.

Additional payments are made to hospitals using provisions of the MS-DRG system. These provisions include disproportionate share hospital (DSH) status, indirect medical education adjustments, outliers, and new technology.

Beginning in 1986, as a result of the Consolidated Omnibus Budget Reconciliation Act of 1985, additional payment is provided for facilities that qualify as disproportionate share hospitals (DSH). Hospitals with a high percentage of low-income patients can be designated as DSH. There are two methods through which hospitals may qualify as a DSH. The first method is based on a DSH patient percentage that sums the inpatient days attributed to patients for Medicare Part A and Supplemental Security Income and Medicaid (but not Medicare Part A), which is then divided by the total patient days of a facility. The formula is DSH Patient Percentage = (Medicare SSI Days/ Total Medicare Days) + (Medicaid, non-Medicare Days/ Total Patient Days). The percentage must exceed 15 percent to become eligible. A hospital may qualify as a DSH if they are a large urban hospital with 100 or more beds that can show that more than 30 percent of the total net inpatient care revenues come from state and local government for indigent care.

An indirect medical education (IME) adjustment is given to approved teaching hospitals. Only hospitals that have approved graduate medical education (GME) programs qualify for the IME. Teaching hospitals must incur the cost of educating new physicians and experience a higher cost of patient care; therefore, the IME adjustment helps to offset these additional costs. The exact adjustment is specific to each hospital and is formulated based on the ratio of residents in the program to patient beds at the teaching hospital and a multiplier assigned by Congress.

For encounters that incur extraordinarily high costs compared to the average cost for a specific MS-DRG, Medicare will provide an outlier payment. To qualify for an outlier payment an encounter must exceed costs above a fixed-loss cost threshold amount. The hospital's Medicare-approved charges for the encounter are converted to costs using a cost-to-charge ratio (CCR), which are compared to the fixed-loss cost threshold amount. Payments are made based on a marginal cost factor, which is a percent of the costs that are above the fixed-loss

EXAMPLE

MS-DRG	FY 2025 Final Post-Acute DRG	FY 2025 Final Special Pay DRG	MDC	TYPE	MS-DRG Title	Weights - Before Cap	Weights - 10% Cap Applied	Geometric mean LOS	Arithmetic mean LOS
397	No	No	06	SURG	APPENDIX PROCEDURES WITH MCC	2.4776	2.4776	5.1	7.1
398	No	No	06	SURG	APPENDIX PROCEDURES WITH CC	1.5133	1.5133	3.0	3.9
399	No	No	06	SURG	APPENDIX PROCEDURES WITHOUT CC/MCC	1.1241	1.1241	1.9	2.2
371	Yes	No	06	MED	MAJOR GASTROINTESTINAL DISORDERS AND PERITONEAL INFECTIONS WITH MCC	1.7483	1.7483	5.3	6.9
372	Yes	No	06	MED	MAJOR GASTROINTESTINAL DISORDERS AND PERITONEAL INFECTIONS WITH CC	1.0293	1.0293	3.7	4.6
373	Yes	No	06	MED	MAJOR GASTROINTESTINAL DISORDERS AND PERITONEAL INFECTIONS WITHOUT CC/MCC	0.7253	0.7253	2.8	3.3

Source: https://www.cms.gov/medicare/payment/prospective-payment-systems/acute-inpatient-pps/fy-2025-ipps-final-rule-home-page. The table above provides some of the MS-DRG options for diagnosis code K35.80 *Unspecified acute appendicitis*.

The DRG options include DRGs for patients with acute appendicitis. Other options are complicated or uncomplicated principal diagnosis with major complications or comorbidities (MCC), with complications or comorbidities (CC), without MCC, without CC, and without MCC and without CC.

As an example, a patient with acute appendicitis, laparoscopic appendectomy, who was discharged alive, and had a CC would fall into MS-DRG 398.

The hospital payment rate for MS-DRG 398 with a facility hospital base rate of $3201.00 is $4,844.07 (1.5133 x $3201.00).

(Full instructions to determine the MS-DRG and calculate the hospital reimbursement rate will be discussed at the end of this chapter.)

CMS has a PRICER program that can be used by hospitals to determine the payment rate. This can be downloaded on the CMS website at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PCPricer/.

Assignment of a patient to an MS-DRG is based on information in the medical record.

Hospital records should:

- Be comprehensive and complete
- Include all diagnoses, procedures, complications, and co-morbidities
- Include any suspected conditions and procedures to evaluate the patient
- Include physician documentation about the relevance of abnormal laboratory tests, X-rays, and other imaging tests
- Be legible

The Medicare IPPS applies to most acute care hospitals. It is not used to calculate payments for:

- Psychiatric hospitals and units
- Rehabilitation hospitals and units
- Children's hospitals
- Long-term care hospitals
- Cancer hospitals

Medicare Groupers are software programs that take information from inpatient claim forms — including ICD-10-CM diagnosis codes, ICD-10-PCS codes for surgical procedures performed during the hospitalization, and patient demographics — and use that information to determine the proper MS-DRG for hospital admission. Hospital medical records must be accurate and complete to help ensure the software assigns the correct

Five criteria for malnutrition include:

- Phenotypic criteria
  - Non-volitional weight loss
  - Low body mass index
  - Reduced muscle mass
- Etiologic criteria
  - Reduced food intake/assimilation
  - Inflammation/disease burden

It is proposed that the diagnosis of malnutrition be based upon the presence of at least one phenotypic criterion and one etiologic criterion.

Possible Treatments:

- Gastrostomy status (PEG tube).
- Tube feeds or TPN should be linked to a diagnosis indicating the need.
- Tube feeding is not always indicative of malnutrition and is frequently given to prevent malnutrition.

Assessment of Malnutrition

- Insufficient energy or protein intake
- Poor nutritional intake over __ period of time
- ___% loss of usual body weight (UBW) over ____weeks/months
- Catabolic response to acute illness/inflammatory process
- Increased nutritional needs due to acute illness
- Muscle wasting, loss of subcutaneous fat
- Bedridden/reduced functional capacity
- Fluid accumulation masking weight loss/nutritional edema
- Malabsorptive process preventing enteral absorption and/or altering nutrient utilization
- Hyperglycemia preventing utilization of nutrients
- Alcohol abuse
- Multiple hospitalizations/procedures requiring NPO status

DOCUMENTATION TIPS

- Document pertinent history (weight loss, cachexia, cancer, or obesity), clinical findings, and supporting lab.
- Describe the type of malnutrition when known:
  - Protein calorie
  - Protein energy
- Specify the degree of malnutrition:
  - Mild or first degree
  - Moderate or second degree
  - Severe or third degree
- Document consequences of untreated/undertreated malnutrition:
  - Anemia
  - Blood clots
  - Decubitus ulcer
  - Depression
  - Fatigue
  - Increased risk of digestive, lung, and heart problems
  - Increased risk of pneumonia and other infections
  - Muscle weakness
  - Pressure ulcer

Chapter 5: Mental, Behavioral and Neurodevelopmental Disorders (F01–F99)

Coding mental disorders is complicated by the availability of another set of widely used codes in the *Diagnostic and Statistical Manual, Fifth Edition* (DSM-V), published by the American Psychiatric Association. The DSM-V should be used as a reference to assist in the determination of a diagnosis. DSM-V lists the specific DSM-V code along with a description of the problem, and any diagnostic or associated features.

Mental and Behavioral Disorders Due to Psychoactive Substance Use

Alcohol use disorders are medical conditions that doctors can diagnose when a patient's drinking causes distress or harm. In the United States, about 18 million people have an alcohol use disorder, classified as either alcohol dependence or alcohol abuse. The codes for alcohol-related disorders are found in category F10.

Alcohol use disorder is a problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least two of the following that occur within a 12-month period, according to the DSM-5:

- Alcohol is often taken in larger amounts or over a longer period than was intended.
- There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.
- A great deal of time is spent on activities necessary to obtain alcohol, use alcohol, or recover from its effects.
- Craving or a strong desire or urge to use alcohol.
- Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.
- Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.

the pancreatic tissue responsible to produce insulin is absent because it is destroyed by a disease. Secondary diabetes always is caused by another condition or event.

For patients who routinely use insulin, code Z79.4 *Long-term (current) use of insulin* is also assigned. If insulin is only given temporarily to bring a patient's blood sugar under control during an encounter, Z79.4 is not reported. For patients who control their diabetes with oral antidiabetic medications or oral hypoglycemic medications, report Z79.84. If the patient is treated with both oral medications and insulin, both Z79.4 and Z79.84 should be assigned. When the patient's treatment includes the use of insulin or oral hypoglycemic drugs and an injectable non-insulin antidiabetic drug, Z79.85 *Long-term (current) use of injectable non-insulin antidiabetic drugs* is also reported.

For post-pancreatectomy diabetes mellitus, assign code E89.1 *Postprocedural hypoinsulinemia*. Assign a code from category E13 and a code from subcategory Z90.41- *Acquired absence of pancreas as additional codes*. Subcategory code Z90.41- has a use additional note to also code any additional insulin use (Z79.4) and diabetes mellitus, postpancreatectomy (E13.-).

APPLICATION OF PROVIDER COMMUNICATION

A patient is admitted with cellulitis of the lower leg. The patient has a long history of diabetes type 2. The H&P substantiates the physician modifies the insulin dosage and orders antibiotics for the cellulitis.

Possible provider query:

H & P dated 9/25/XX indicates the patient has lower leg cellulitis. Is there an underlying cause of the cellulitis?

Overweight, Obesity, and Other Hyperalimentation (E65–E68)

Overweight and obesity are abnormal or excessive fat accumulation that may impair health. The main cause of overweight and obesity is an energy imbalance between the calories taken in and the calories expended. Body mass index (BMI) is an index of weight-to-height that is commonly used to classify overweight and obesity in adults. It is a person's weight in kilograms divided by the square of the person's height in meters (kg/m^2). The World Health Organization (WHO) uses the following measures for overweight and obesity:

- BMI greater than or equal to 25 is overweight
- BMI greater than or equal to 30 is obese

CLINICAL DEFINITION: MALNUTRITION

Clinical Indicators:

Aspen clinical criteria for malnutrition (2012)

ASPEN CRITERIA			Malnutrition in the Context of Chronic Illness		Malnutrition in the Context of Social or Environmental Circumstances	
	Other Non-Severe Malnutrition	**Severe Malnutrition**	**Other Non-Severe Malnutrition**	**Severe Malnutrition**	**Other Non-Severe Malnutrition**	**Severe Malnutrition**
% Intake energy	**<75% of need for > 7 days**	**<50% of need for > 5 days**	**<75% of need for > 1 mo**	**<75% of need for > 1mo**	**<75% of need for > 3 mo**	<50% of need for > 1 mo
% Weight loss	1-2% in 1 wk 5% in 1 mo 7.5% in 3 mo	1-2% in 1 wk 5% in 1 mo 7.5% in 3 mo	5% in 1 mo 7.5% in 3 mo 10% in 5 mo 20% in 1 yr	5% in 1 mo 7.5% in 3 mo 10% in 6 mo 20% in 1 yr	5% in 1 mo 7.5% in 3 mo 10% in 6 mo 20% in 1 yr	5% in 1 mo 7.5% in 3 mo 10% in 6 mo 20% in 1 yr
Subjective physical findings (one or more)	**Mild** Subcut. Fat Muscle Fluid/edema	**Moderate** Subcut. Fat Muscle Fluid/edema	**Mild** Subcut. Fat Muscle Fluid/edema	**Moderate** Subcut. Fat Muscle Fluid/edema	**Mild** Subcut. Fat Muscle Fluid/edema	**Moderate** Subcut. Fat Muscle Fluid/edema
Reduced grip strength (functional finding)	N/A	Measurably reduced per device standards	N/A	Measurably reduced per device standards	N/A	Measurably reduced per device standards

Global Leadership Initiative on Malnutrition (GLIM)

An interesting distinction can be made for the internal mammary graft. When the cardiovascular surgeon creates an internal mammary graft, he dissects through the internal mammary artery at one end and leaves the origin attached. When one end of the artery is left attached to the body, this is called a pedicle graft. The surgeon will then connect the free end of the internal mammary artery to the coronary artery that is occluded and needs to be bypassed. Because the internal mammary artery remains attached at one end, it is not coded as a device. When either a left or right internal mammary artery is used for a bypass, the device value will be Z, No Device.

Lastly, when coding for CABG procedures, you need to review the circulation of blood in the heart to assist with selecting the body part bypassed from and the body part bypassed to. The left coronary artery and right coronary artery flow off of the aorta. The left coronary artery then branches into the left circumflex artery and the left anterior descending artery.

In the below case, a patient requires a CABG, in which the treatment will be directed toward two arteries, the left anterior descending and the circumflex. The purpose of a CABG procedure is to restore the function of the coronary arteries that are occluded and required this surgical intervention. The code selection for a CABG will code to the root operation bypass, as the purpose of the procedure is to alter the route of the coronary arteries for restoring purposes. The CABG procedure tends to be called open heart surgery. It is also common for the cardiac surgeon to remove the saphenous vein from the lower extremities by endoscopic approach to use as the graft method for coronary artery assistance.

The use of cardiopulmonary bypass is also expected as this machine assists as cardiac and pulmonary support while bypassing the coronary arteries. This is a reportable procedure under the ICD-10-PCS classification.

OPERATIVE REPORT

Procedures Performed: Coronary artery bypass grafting (CABG) x2, left internal mammary artery to the left anterior descending and reverse saphenous vein graft to the circumflex

The saphenous vein resected from the right thigh was harvested, side branches secured using 4-0 silk and Hemoclips by endoscopic approach. The thigh was closed with multilayer sutures.

A midline sternotomy was made and carried down through the sternum which was divided with the saw. Pericardial and thymus fat pad was divided. The left internal mammary artery was harvested and spatulated for anastomosis. Heparin was given. The left internal mammary artery is sewn to the left anterior descending using 7-0 running Prolene. After this was done, the patient was fully heparinized, cannulated with a 6.5 atrial cannula and a 2-stage venous catheter, and begun on cardiopulmonary bypass and maintained normothermia. The right-side saphenous graft was brought to the circumflex using running 7-0 Prolene technique. The distal other end of the graft was then anastomosed to the aorta. The bulldogs were removed. The patient maintained good normal sinus rhythm with good mean perfusion. The patient was weaned from cardiopulmonary bypass. The arterial and venous lines were removed and doubly secured. Protamine was delivered. Meticulous hemostasis was present. Platelets were given for coagulopathy. Chest tube was placed and meticulous hemostasis was present. The anatomy and the flow in the grafts was excellent. Closure was begun.

The sternum was closed with wire, followed by pectus fascia closure with running 0 Vicryl sutures in double-layer technique. The skin was closed with subcuticular 4-0 Dexon suture technique.

ICD-10-PCS codes for the above example are as follows:

02100Z9 *Bypass coronary artery, one artery from left internal mammary, open approach* (The left internal mammary was used as a bypass method to connect to the left anterior descending artery. The approach is coded to open as this was done with a midline sternotomy to expose the heart.)

021009W *Bypass coronary artery, one artery from aorta with autologous venous tissue, open approach* (The saphenous vein graph was used to bypass and connect the circumflex to the aorta. The approach is also coded as open due to the midline sternotomy to expose the heart.)

06BP4ZZ *Excision of right saphenous vein, percutaneous endoscopic approach* (The harvesting of the saphenous graft is separate reportable as this was done by means resecting the vein through another incision in a different anatomical area with use of an endoscope.)

5A1221Z *Performance of cardiac output, continuous* (A cardiopulmonary bypass is always used to support the heart and the lungs while the heart is being operated on.

Documentation note: One important component to understand about CABG procedures is differentiating the use of arterial grafts and venous grafts while selecting the ICD-10-PCS code. You must be able to comprehend the character for how many arteries are being treated and what kind of grafts are being used. The classification distinguishes the use of arterial/venous grafts, coronary to coronary, left internal and right internal mammary artery, and thoracic to coronary artery approach.

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
Medical and Surgical	Heart and Great Vessels	Bypass	Coronary Artery, One Artery	Open	No Device	Internal Mammary, Left
0	**2**	**1**	**0**	**0**	**Z**	**9**

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
Medical and Surgical	Heart and Great Vessels	Bypass	Coronary Artery, One Artery	Open	Autologous Venous Tissue	Aorta
0	**2**	**1**	**0**	**0**	**9**	**W**

Character 1 Section	Character 2 Body System	Character 3 Root Operation	Character 4 Body Part	Character 5 Approach	Character 6 Device	Character 7 Qualifier
Medical and Surgical	Lower Veins	Excision	Saphenous Vein, Right	Percutaneous Endoscopic Approach	No Device	No Qualifier
0	**6**	**B**	**P**	**4**	**Z**	**Z**

Character 1 Section	Character 2 Body System	Character 3 Type	Character 4 Body Part	Character 5 Duration	Character 6 Function	Character 7 Qualifier
Extracorporeal or Systemic Assistance and Performance	Physiological Systems	Performance	Cardiac	Continuous	Output	No Qualifier
5	**A**	**1**	**2**	**2**	**1**	**Z**

EXAMPLE

Physician performs an open CABG of left anterior descending (LAD) using left internal mammary artery (LIMA) with the patient off-bypass. In this procedure, one conduit is used (the LIMA) and it is used to bypass one artery (the LAD).

The correct code for this scenario is 02100Z9: Open CABG of one artery with the left internal mammary artery as the conduit.

0—Medical and Surgical

2—Heart and Great Vessels

1—Bypass

0—Coronary Artery, One Artery

0—Open

Z—No Device

9—Internal Mammary, Left

The body part, coronary artery, one artery, specifies the body part that the blood is bypassed TO. And the qualifier, internal mammary artery, left, specifies the body part the blood is bypassed FROM. In this case, the blood is bypassed from the left internal mammary artery to the one coronary artery, the left anterior descending artery beyond the section where the LAD was occluded.

Valve procedures — Valves can be repaired or replaced. If replaced, they can be biological or mechanical.

EXAMPLE

A physician replaces a mitral valve on a patient with mitral valve prolapse (MVP) with a porcine (swine) valve by open technique. The main term and root operation for this procedure is replacement. In the ICD-10-PCS Index, look for Replacement/Valve/Mitral referring to 02RG. See table 02R to choose the remaining characters.

The correct code for this scenario is 02RG08Z: Open mitral valve replacement with porcine valve.

0—Medical and Surgical

2—Heart and Great Vessels

R—Replacement

G—Mitral Valve

0—Open

8—Zooplastic Tissue

Z—No Qualifier

Documentation note: A zooplastic tissue transfer is the surgical transfer of tissue from an animal to a human. In this case the tissue comes from a pig and is used to replace the patient's mitral valve.

03 Upper Arteries

Embolization procedure — is the selective occlusion of blood vessels by purposely introducing emboli in order to deprive tumors (or other pathologic processes) of their perfusion (blood supply).

EXAMPLE

A physician performs a percutaneous embolization of the vascular supply to an intracranial artery due to meningioma. The code for this scenario is 03LG3DZ: Occlusion of intracranial artery with intraluminal device, percutaneous approach.

0—Medical and Surgical

3—Upper Arteries

L—Occlusion

G—Intracranial Artery

3—Percutaneous

D—Intraluminal Device

Z—No Qualifier

Documentation note: The fact that the patient has a meningioma has no bearing on the coding of the case. PCS contains no diagnostic information in the code set.

07 Lymphatic and Hemic Systems

Procedures

Lymphadenectomy consists of the surgical removal of one or more groups of lymph nodes. It is almost always performed as part of the surgical management of cancer.

This is usually done because many types of cancer have a marked tendency to produce lymph node metastasis early on in their natural history. This is particularly true of melanoma, head and neck cancer, differentiated thyroid cancer, breast cancer, lung cancer, gastric cancer, and colorectal cancer. For example, a radical neck dissection for head and neck cancer and thyroid cancer.

EXAMPLE

A physician performs an open bilateral total lymphadenectomy of the axillae due to breast cancer.

The correct codes for this scenario are 07T50ZZ AND 07T60ZZ: Open resection left and right axillary lymph nodes.

0—Medical and Surgical

7—Lymphatic and Hemic Systems

T—Resection

5—Lymphatic, Right Axillary

0—Open

Z—No Device

Z—No Qualifier

AND

0—Medical and Surgical

7—Lymphatic and Hemic Systems

T—Resection

6—Lymphatic, Left Axillary

0—Open

Z—No Device

Z—No Qualifier

Documentation note: It is necessary for a CDEI™ to know the difference between excision and resection. In an excision, only a portion of a body part is removed. With a resection, the entire body part is removed. In this scenario, it states the procedure is a "total" lymphadenectomy of the axilla. That is how the CDEI™ knows that the entire left and right axillary lymph node chain is removed instead of just part.

Documentation note: There is no bilateral code for this procedure, so two codes are necessary to indicate the complete procedure. This is ICD-10-PCS guideline B3.2.a: "During the same operative episode, multiple procedures are coded if the same root operation is performed on different body parts as defined by distinct values of the body part character." Go to table 07T in the ICD-10-PCS code book. Notice that there is one body part value for Lymphatic, Left Axillary, and one for Lymphatic, Right Axillary. But there is no code for Lymphatic, Bilateral Axillary. Two codes need to be assigned.

10. **Answer:** C: Code just dependence.

    Rationale: Per coding guidelines for Chapter 5 (Mental, Behavioral and Neurodevelopmental Disorders), section b.2: Psychoactive Substance Use, Abuse and Dependence: "When the provider documentation refers to use, abuse and dependence of the same substance (e.g. alcohol, opioid, cannabis, etc.), only one code should be assigned to identify the pattern of use based on the following hierarchy:

    - If both use and abuse are documented, assign only the code for abuse.
    - If both abuse and dependence are documented, assign only the code for dependence.
    - If use, abuse and dependence are all documented, assign only the code for dependence.
    - If both use and dependence are documented, assign only the code for dependence."

11. **Answer:** C. U, u

    Rationale: The abbreviation U or u for unit can be mistaken for 0 (zero), the number 4 (four), or cc. Therefore, it is recommended to write unit instead.

12. **Answer:** B. Medication

    Rationale: Use of standardized formats for numeric values, such as medication dose designations and laboratory values add precision that reduces the risk of error when interpreting such information. A trailing zero may be used only when required to demonstrate the level of precision of the value being reported, such as for laboratory results, imaging studies that report the size of lesions, or catheter/tube sizes. It may not be used in medication orders or other medication-related documentation.

13. **Answer:** B. Identifies the patient; supports the diagnosis/condition; justifies the treatment; documents the course and results of treatment

    Rationale: Per the CMS Interpretive Guidelines, a medical record should identify the patient; support the diagnosis/condition; justify the treatment; and document the course and results of treatment.

    See the CMS INTERPRETIVE GUIDELINES §482.24 for more information.

14. **Answer:** C. The physician is potentially including outdated or inaccurate information in the current note.

    Rationale: The correct answer is C. Copying and pasting previous notes can lead to the inclusion of outdated or inaccurate information in the current note, which can result in inaccurate coding and billing.

15. **Answer:** B. Hypokalemia

    Rationale: Correct answer is B as patient does not meet clinical evidence of diagnosis of hypokalemia. A patient with hypokalemia will have lab findings of < 3.5 mEq/L, and in this case the patient's potassium was in range (Ref: https://my.clevelandclinic.org/health/diseases/17740-low-potassium-levels-in-your-blood-hypokalemia). The diagnosis of hyponatremia is clinically supported with lab findings of 128 mEq/L (normal range 135-145 mEq/L). Diagnosis of dehydration is clinically supported as the patient had signs and symptoms of weakness and fatigue and physical examination revealed dry mucous membrane along with tachycardia. The diagnosis of hypertension is clinically supported as the patient is currently taking amlodipine, a calcium channel blocker.

16. **Answer:** B. The physician is not individualizing the documentation to each patient's specific condition.

    Rationale: Using a pre-filled template for all patients and not individualizing the documentation to each patient's specific condition can lead to inaccurate coding and billing.

49. **Answer:** B. Yes, the documentation suggests there is an unnamed definitive diagnosis.

    Rationale: During the stay, the patient started coughing after drinking water with transient hypoxia on RA to 88%. CXR showed atelectasis vs infiltrates, fever, and cough. The clinical indicators suggest there may be a more definitive diagnosis of aspiration pneumonia, and only a query to the physician could clarify the outcome.

50. **Answer:** A. B3.11c "When both an Inspection procedure and another procedure are performed on the same body part during the same episode, if the Inspection procedure is performed using a different approach than the other procedure, the Inspection procedure is coded separately."

    Rationale: In the scenario, the approach of the procedures changes; therefore, you would follow B3.11c: "When both an Inspection procedure and another procedure are performed on the same body part during the same episode, if the Inspection procedure is performed using a different approach than the other procedure, the Inspection procedure is coded separately."

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