"*" indicates the definitions. put in your own words.

chest x-rays are performed per month. Further, the department manager wants to confirm that every chest x-ray procedure was billed. The department will most likely have internal records of the number of x-rays performed by month, but comparing that volume with the units of service billed according to the CDM will allow the radiology department to identify whether there is a charge capture issue.

Like utilization management, the resource consumption level can be monitored in a consistent and reliable manner with the help of the CDM. The CDM, by using standardized code sets, allows a facility to track the types of services utilized by a specific patient population. For example, the cardiac catheterization unit wants to know what drugs were administered to patients who underwent catheterizations in May. By using the charge code for cardiac catheterization procedures, the department can pull billing details from the facility's data warehouse. The department can then analyze the data to determine which types of resources are most often consumed by patients. The department may be particularly interested in recovery room time. Because recovery room time is reported on claims, the service has a unique charge code. Therefore, the analysis would be able to determine the average length of time that patients spend in the recovery room post-procedure. This is important not only for cost determination, but also for staffing and patient scheduling considerations. With the use of CDM data elements, this review can be performed by a data analyst very easily. This contrasts with requiring a data abstraction professional to review medical records, which can be very time consuming.

The required data elements reported on the claim represent the charge. This can be confusing because there are two meanings of **charge** in healthcare. The first is the charge data on the claim that is used to report services and supplies to third-party payers. The second is the charge or price for the service or supplies. The price is one required data element in the charge. A unique identifier triggers a charge from the CDM to be posted to the patient's account. This process is known as **hard coding**. Noncomplex services that do not require the expertise of a coding professional may be reported via hard coding. Additionally, repetitive services, such as radiology and laboratory procedures, are often hard coded.

The CDM is a vital component of the revenue cycle. The accuracy of the CDM data elements is crucial to ensure claims are error free and complete. The governance of the CDM data elements is a year-round endeavor requiring a multidisciplinary team. The next sections will explore CDM structure and CDM maintenance.

CDM Structure

Although each CDM is unique, standard data elements are included in a CDM. It is important that HIM professionals be familiar with each of the CDM data elements and the elements' importance to the claim production process. A CDM **line item** is a single line of a CDM that includes all the required data elements. Table 10.1 displays sample line items from a CDM.

The first line item in table 10.1 is for the supply of Dermagraft, which is used in a synthetic skin grafting procedure. The line item contains seven data elements in this example. Some of the data elements are hospital-specific and used internally for management purposes. Other data elements such as revenue codes, are used by all facilities and included on the claim form. Review the active line item for venipuncture in table 10.1 and examine how the venipuncture service is reported on a claim form. Figure 10.3 displays the CDM data elements on an excerpt from a UB-04 claim form.

Compare data elements included in the CDM to data elements required for claim submission. Note that only the revenue code, description, HCPCS code, and charge data elements from the CDM populate the UB-04 claim form. The remaining data elements, such as charge code, are used for internal controls, operations, and analyses. Next, examine the data elements on the claim form that are not in the CDM. These data elements, such as service date and service units, are unique to the encounter and may be different for each patient. In the next section, each data element of the CDM is discussed in detail.

* The **charge code**, also known as the service code, item code, charge description number, or charge identifier, is a hospital-specific internally assigned code used to identify a supply or service. The code is typically numeric but could also be alphanumeric. Charge codes are assigned or distributed by a designated person, typically in the IT department or the CDM unit. The methodology for assignment depends on the facility. Similar to typical health record number schemes, the charge code number may be distributed in a sequential numeric order, or a facility may reserve numerical

Table 10.1. Sample CDM

Department Code	Charge Code*	Charge Description	Revenue Code	HCPCS Code**	Charge***	Charge Status Indicator
700	7008989	Dermagraft (Synth skin graft)	0252	Q4106	$1,525.00	Active
700	7005202	XR shoulder, complete	0320	73030	$350.00	Active
700	7005203	Regular OR—1st hour	0360		$4,687.00	Active
700	7005205	Regular OR—½ hour	0360		$1,682.00	Active
715	7157059	Open heart—1st hour	0360		$5,589.00	Active
715	7157060	Open heart—½ hour	0360		$2,782.00	Active
465	7605161	P.T. Eval	0424	97001	$295.00	Active
800	8004557	ED visit level 3	0450	99283	$586.00	Active
822	8224210	Albumin 5% saline	0250	P9045	$265.00	Active
367	3675839	Speech screening	0440	V5362	$298.00	Active
367	3675840	Language screening	0440	V5363	$298.00	Active
367	3675841	Dysphagia screening	0440	V5364	$298.00	Active
200	2578961	Venipuncture	0300	G0001	$18.00	Inactive
200	2578989	Venipuncture	0300	36415	$18.00	Active
110	1478951	MRI upper extremity without dye	0610	73218	$817.00	Active
110	1478952	MRI upper extremity with dye	0610	73219	$857.00	Active
110	1478953	MRI upper extremity without and with dye	0610	73220	$897.00	Active

* Also called item number, charge number, item code, service code, and service number.
** When blank, Healthcare Common Procedure Coding System (HCPCS) code is determined via coding in health information management (HIM) department for certain revenue codes.
*** Charge is fictitious and should not be used for rate setting.

Figure 10.3. Sample UB-04 claim form

42 REV CD	43 DESCRIPTION	44 HCPCS/RATES	45 SERV. DATE	46 SERV. UNITS	47 TOTAL CHARGES		48 NON-COVERED CHARGES		49
0300	VENIPUNCTURE	36415	7/12/20	1	18	00			
0300	METABOLIC PANEL BASIC (CHEM 7)	80048	7/12/20	1	264	00			
0301	MAGNESIUM	83735	7/12/20	1	82	00			
0301	TROPONINI	84484	7/12/20	1	221	00			
0301	CBC	85025	7/12/20	1	82	00			
0320	XR SHOULDER COMPLETE	73030	7/12/20	1	350	00			
0424	P.T. EVAL	97001	7/12/20	1	295	00			
0450	ED STRAPPING SHOULDER	29240	7/12/20	1	640	00			
0450	ED VISIT LEVEL 3	99283	7/12/20	1	586	00			
0636	MORPHINE SULFATE 10 MG	J2270	7/12/20	2	308	00			
0636	LACTATED RINGERS 1000CC	J7120	7/12/20	1	75	00			

Source: Adapted from CMS 2019a.

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sections by ancillary service. For example, charge code number set 100000 to 199999 is reserved for radiology.

Regardless of the distribution methodology, each charge code number must be unique and the CDM unit must ensure there are not duplicate charge codes in the CDM. When multiple identical charge codes are present in a CDM, the facility may inadvertently submit billing data elements for the wrong service or procedure on the claim. Therefore, the CDM coordinator should schedule and complete duplicate charge code audits throughout the year.

A **department code** is a hospital-specific number that is assigned to each clinical or ancillary department that provides services to patients. Alternative terminology for this data element may be *general ledger number*. The department code is used to identify the area within the healthcare facility that delivers the service or supply. Department codes usually correspond with an ancillary or clinical service, such as speech therapy, or with a physical area, such as the emergency department.

A **revenue code** is a four-digit numeric code required for billing on the UB-04 claim form or the 837I. Revenue codes are maintained by the National Uniform Billing Committee and, therefore, are standard in the US, with the same code set used by all facilities. Revenue code assignment is usually driven by the ancillary department or location where the service is performed. Revenue code reporting requirements for Medicare are detailed in the *Medicare Claims Processing Manual*, chapter 25, section 75.4 (CMS 2020a). The *Medicare Claims Processing Manual* is an online publication that offers guidance for producing claims for all healthcare settings. At each facility, the revenue codes reported on claims are used in the end-of-year cost reporting process to aggregate charge and cost data.

Although the revenue code list is standardized, the combination of HCPCS code and revenue code can be somewhat facility specific. Medicare and other third-party payers issue transmittals and bulletins that provide instruction for revenue and HCPCS code combinations. Additionally, the Medicare Code Editor (MCE) and the Outpatient Code Editor (OCE) used by the Medicare administrative contractors (MACs) contain revenue code and HCPCS code edits to ensure the appropriate combinations are reported on claims.

In addition to identifying the service area or type of service performed, revenue codes are used by third-party payers to identify payment methodologies in their contracts. Therefore, the revenue code assignment in the CDM must be reviewed annually by the CDM analyst and hospital contract management team. For example, consider the following contract language for three payers at a facility. Payer one indicates in the contract that MRI services identified by revenue code 0610 will be reimbursed at 60 percent of the billed charges. The second payer, Medicare, specifies that the most specific revenue code should be used for MRI services and that facilities should report the applicable revenue code in range 0610 to 0614. The third payer specifies that MRI services will be reimbursed based on the HCPCS code regardless of the revenue code reported. CDM analysts must work closely with hospital contract managers to ensure the CDM meets the reporting needs for all three of these payers, not just major payers like Medicare.

HCPCS codes are the current code set utilized to report individual services, procedures, and supplies rendered to patients. The HCPCS code set is discussed in detail later in this chapter. HCPCS codes were established by HIPAA as the designated code set for use on electronic transactions by all healthcare facilities and insurers for the services, procedures, and supplies rendered in outpatient settings. Thus, the use of HCPCS codes, when available, is mandatory. However, it is important to remember that HCPCS codes are not available for all services and supplies provided to patients. For example, nursing services, patient care associate services, case management services, and some medications do have HCPCS codes. Therefore, this data element will be blank for some line items.

Charge description is an explanatory phrase that is assigned to describe a procedure, service, or supply. The charge description is based on the official HCPCS description when applicable, but the field is often limited by the character length allowed by the EHR or financial system and cannot always accommodate the official description. Therefore, hospitals develop their own descriptions for many line items in the CDM.

The American Medical Association (AMA) and CMS provide an official long description for each HCPCS code. Additionally, a short description is provided for use in space-limited fields within hospital systems. The CDM team must decide whether the short description of the code should be used as the hospital description or whether a modified description would be better for the facility. Likewise, a list of commonly used abbreviations should be maintained to provide

consistency through the CDM. The dilemma lies in that most practitioners are not familiar with the official HCPCS code description; rather, they use working lay titles for the procedures and services they perform or provide. Therefore, using the official short descriptions in the CDM may be confusing for service providers. On the flip side, consumers of healthcare may better understand the official short or long description than the lay term used by practitioners. As hospitals work to improve customer service with their patients, they strive to produce a patient bill that the patient can easily comprehend. To illustrate this point, table 10.2 compares a few lay descriptions to some official short descriptions.

In examples A and B, it is not likely that the average patient would be able to identify the service they received from the charge description. If someone is not familiar with coding, they will not likely be able to identify which service "SLP treatment" represents. It is more likely that only ancillary therapists would understand the hospital lay description for these therapy services. Likewise, in examples C and D, perhaps only radiology technicians, radiologists, physicians, and coders might understand the hospital lay descriptions for these services. Again, it is unlikely that the average patient would be able to connect "SP arterio renal bilateral" to the catheterization that they received.

There are no hard and fast rules regarding the charge description that must be used in the CDM. Each facility must determine which methodology works best. The Healthcare Financial Management Association (HFMA) has published extensively on patient-friendly billing. HFMA launched the Patient Friendly Billing Project to encourage facilities to improve billing for patients (HFMA n.d.). The philosophy of the project is based on the following ideals:

Table 10.2. **Sample charge descriptions (lay descriptions) versus short descriptions**

Example	Charge Description	Code	Short Description
A	SLP treatment	92507	Speech/hearing therapy
B	CPM setup	97001	PT evaluation
C	Treatment aids—interim	77333	Radiation treatment aid(s); intermediate
D	SP arterio renal bilateral	36246	Place catheter in artery; initial second order

- The needs of patients and family members should be paramount when designing administrative processes and communications.
- Information gathering should be coordinated with other providers and insurers, and this collection process should be done efficiently, privately, and with as little duplication as possible.
- When possible, communication of financial information should not occur during the medical encounter.
- The average reader should easily understand the language and format of financial communications.
- Continuous improvement of the billing process should be made by implementing better practices and incorporating feedback from patients and consumers. (HFMA n.d.)

Though many revenue cycle areas are impacted by this project, there is an emphasis on the charge descriptions used by facilities on the patient bill.

Recall that the charge, or price, is the dollar amount that the hospital requests for payment when providing the item or service to the patient. This term can be confusing. Healthcare professionals use the term *charge* as a verb to refer to the act of collecting the data elements for all services and supplies. They also use the term to mean price. The CDM team does not typically set the price. A team within finance analyzes and updates the charge structure and charges on a regular basis. However, CDM analysts may identify charge oddities, and these issues should be forwarded to the revenue cycle team for investigation.

A **modifier** is a two-digit alpha, alphanumeric, or numeric code used by providers and facilities to identify or flag a service that has been modified in some way or to provide more specific information about the procedure or service. There are two sources of modifiers. The first source of modifiers includes those that are part of the CPT code set. The second source of modifiers includes those that are part of the HCPCS Level II code set.

Because the use of a modifier can alter the meaning of the code, it is important that modifiers only be applied to HCPCS codes when documentation in the medical record supports the application of the

modifier. Thus, inclusion of modifiers in the CDM is rare, but some facilities do use this practice. CDM teams should pay close attention to modifier reporting guidelines if they choose to include a modifier in the CDM. CDM units should consider all compliance implications that could arise because, when included as a line item data element, the modifier is reported with the associated HCPCS code every time the charge code is activated.

Charge status indicator is an identifier used to indicate whether a CDM line item is active or inactive. Hospitals may or may not maintain charge status indicator status in the CDM. Most facilities choose to not delete line items from their CDM to preserve historic practices. Instead they use a charge status indicator. This allows the facility to maintain the integrity of line items that have been used in the past and that may require review at later dates by Medicare and other third-party payers. It is also a way to identify whether new CDM line items are needed. In the CDM line item addition process, the requested line item can be compared to inactive line items. If there is a match, the appropriate discussions can take place about why the line item was moved to inactive status and to determine whether the new line item is necessary.

Payer identifier codes are used to differentiate payers that may have specific or special billing protocol in the payer-hospital contract. For example, CMS requires the use of HCPCS code G0378 for a new office visit, while most commercial payers require CPT codes in the range 99201 to 99205. It is important for the CDM team to review the payer identifier assignment on a regular basis. Each time a payer contract is revised, the CDM team must work with the contract management unit to determine whether changes in payer identifier assignment are warranted.

For example, a facility's largest payer (Super Payer) is adopting the CMS Outpatient Prospective Payment System (OPPS) methodology. Previously, Super Payer paid a percent of billed charge and did not require facilities to use HCPCS Level II codes. However, with the movement to OPPS, they will now require HCPCS Level II codes, and Super Payer is adopting the same reporting requirements as Medicare. The payer identifier assignment for Super Payer may need to be revisited before the switch in their methodology, as displayed in table 10.3.

CDM Maintenance

CDM maintenance is an ongoing process at healthcare facilities, physician offices, hospitals, imaging centers, and freestanding laboratory facilities. Numerous events throughout the year provide cause for CDM maintenance. HCPCS codes are updated regularly throughout the year, as are billing and coding guidance documents. Likewise, payer contracts are usually negotiated based on the facility's fiscal year. Understanding the hospital's financial calendar is an important part of planning for ongoing CDM maintenance.

Each year, the CDM coordinator should ensure the proper resources are allocated for CDM maintenance. Updated code books, as well as national, uniform billing data set information, are required. Additionally, payer instructions such as the *Medicare Claims Processing Manual* should be available so that crucial instructions can be located easily and reviewed. Any publications specific to the state in which the facility operates should be present as well (Dietz 2005, 3). Many payer

Table 10.3. **Example of effect on payer identifier by payer reimbursement methodology change**

Super Payer—Reimbursement Methodology Is Percent of Billed Charges						
Charge Code	Department Number	Revenue Code	HCPCS Code	HCPCS Code CMS	Description	Charge*
12345	301	0481	92928	C9600	Coronary stent placement, drug-eluting stent—Medicare	$12,375.00
Super Payer—Reimbursement Methodology Is OPPS						
Charge Code	Department Number	Revenue Code	HCPCS Code	HCPCS Code CMS and Super Payer	Description	Charge*
12345	301	0481	92928	C9600	Coronary stent placement, drug-eluting stent—Medicare	$12,375.00

*Charge is fictitious and should not be used for rate setting.