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**27<sup>th</sup> Annual Scientific Assembly**

**Sunrise Session 12  
Billing and Coding Update Using ICD=10**

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Naples, Florida**

## ICD-10-CM/PCS: What Do I Need to Know?

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January 17, 2014

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## Disclosures

- AHRQ contract: "Support for Quality Indicators"
- No commercial interest
- Speaker's Verbal Disclosure Statement:

Have you (or your spouse/partner) had a personal financial relationship in the last 12 months with the manufacturer of the products or services that will be discussed in this CME activity?

☐ Yes

☒ No

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## Objectives

1. To describe what ICD-10-CM/PCS is and why it is necessary
2. To identify the main features of ICD-10-CM/PCS diagnosis and procedure codes
3. To discuss the implications of conversion from ICD-9-CM to ICD-10-PCS

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## Challenges and Opportunities with ICD-10-CM/PCS: Implications for Surgical Research Involving Administrative Data

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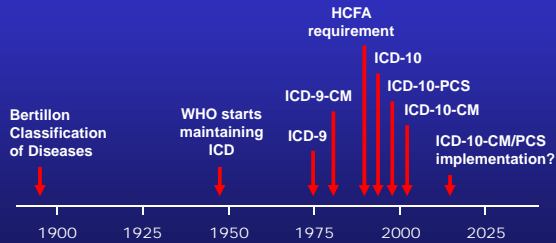
International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) diagnosis and procedure codes have been used to describe and justify reimbursement for hospital care for more than 20 years. As a result, these codes have undergirded numerous health services and surgical outcomes analyses using readily available administrative data. On October 1, 2014, the US Department of Health and Human Services plans to require compliance with the next iteration of ICD in the United States, the International Classification of Diseases, 10th Revision, Clinical Modification and Procedure Coding System (ICD-10-CM/PCS). Whereas ICD-9-CM includes approximately 14,000 diagnosis codes and 4,000 procedure codes, ICD-10-CM currently has approximately 79,500 diagnosis codes, and ICD-10-PCS has almost 73,000 procedure codes. ICD-10-CM/PCS also uses entirely new classification approaches

to facilitate monitoring the quality of trauma care. Because of the vital importance of ICD codes to surgical outcomes and quality-improvement research, we will summarize several considerations for those who intend to use ICD-10-CM/PCS for such purposes.

### HISTORY OF THE ICD

The WHO has maintained the ICD classification since 1948 and developed ICD-9 in 1975, primarily for classifying mortality.<sup>1</sup> In the United States, the National Center for Health Statistics (NCHS) modified ICD-9 for indexing morbidity in the hospital setting as ICD-9-CM. Because the WHO's parent ICD classifications do not address procedures, NCHS added a classification for procedures (volume 3 of ICD-9-CM). Although hospitals only sporadically adopted earlier ICD derivations, the implementation of ICD-9-CM in 1979 estab-

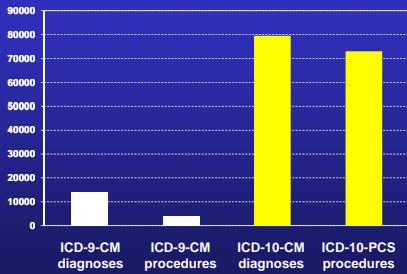
## History of ICD



## Role of ICD Codes

- Hospital billing
- Quality measurement
  - National Hospital Inpatient Quality Measures
  - AHRQ Quality Indicators
- Organization/delivery of care
  - Injury severity scoring
- Clinical and health services research

## Number of Available Codes




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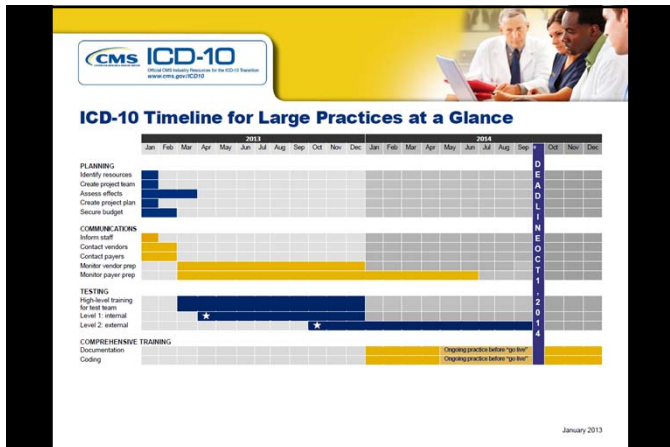
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## ICD-9-CM Diagnosis Codes

- 3-6 characters
- Decimal point
- All numbers, except ...
- Supplemental classifications
  - V codes: Factors Influencing Health Status and Contact with Health Service
  - E codes: External Causes of Injury and Poisoning
- Can have leading or trailing zeros
- Function as strings

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## ICD-10-CM Diagnosis Codes

- 3-7 characters
- Decimal point always after 3<sup>rd</sup> character
- Numbers and letters
  - 1<sup>st</sup> character always a letter (even “I” or “O”), designates chapter
  - First three characters indicate the general category
  - Second three characters provide specificity (cause, anatomic site)
  - 7<sup>th</sup> character qualifies the diagnosis
  - “X” serves as a placeholder
- “Supplemental classifications” built in

ICD-9-CM Chapter	Codes	Description	ICD-10-CM Chapter	Codes	Description
1	001-139	Infectious and Parasitic Diseases	1	A00-B99	Certain Infectious and Parasitic Diseases
2	140-239	Neoplasms	2	C00-D49	Neoplasms
3	240-279	Endocrine, Nutritional, and Metabolic Diseases and Immunity Disorders	3	D50-D89	Diseases of the Blood and Blood-forming Organs and Certain Disorders Involving the Immune Mechanism
4	280-289	Diseases of Blood and Blood-forming Organs	4	E00-E89	Endocrine, Nutritional and Metabolic Diseases
5	290-319	Mental Disorders	5	F01-F99	Mental, Behavioral and Neurodevelopmental Disorders
6	320-389	Diseases of Nervous System and Sense Organs	6	G00-G09	Diseases of the Nervous System
7	390-439	Diseases of Circulatory System	7	H00-H59	Diseases of the Eye and Adnexa
8	440-519	Diseases of Respiratory System	8	H60-H99	Diseases of the Ear and Mastoid Process
9	520-579	Diseases of Digestive System	9	J00-J99	Diseases of the Respiratory System
10	580-629	Diseases of Genitourinary System	10	K00-K95	Diseases of the Digestive System
11	630-677	Complications of Pregnancy, Childbirth, and the Puerperium	11	L00-L99	Diseases of the Skin and Subcutaneous Tissue
12	680-709	Diseases of Skin and Subcutaneous Tissue	12	M00-M99	Diseases of the Musculoskeletal System and Connective Tissue
13	710-739	Diseases of Musculoskeletal and Connective Tissue	13	N00-N99	Diseases of the Genitourinary System
14	740-759	Congenital Anomalies	14	O00-O9A	Pregnancy, Childbirth and the Puerperium
15	760-779	Certain Conditions Originating in the Perinatal Period	15	P00-P96	Certain Conditions Originating in the Perinatal Period
16	780-799	Symptoms, Signs, and Ill-defined Conditions	16	Q00-Q99	Congenital Malformations, Deformations and Chromosomal Abnormalities
17	800-999	Injury and Poisoning	17	R00-R99	Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified
—	V01-V86	Supplementary Classification of Factors Influencing Health Status and Contact with Health Services	18	S00-T88	Injury, Poisoning and Certain Other Consequences of External Causes
—	E800-E999	Supplementary Classification of External Causes of Injury and Poisoning	19	V00-V99	External Causes of Morbidity
			20	Z00-Z99	Factors Influencing Health Status and Contact With Health Services
			21		

S06.0X1A

S06

Category  
Intracranial injury

0X1  
Subcategory  
Concussion with loss of consciousness of 30 minutes or less

A

7<sup>th</sup> Character  
Initial encounter

## ICD-10-CM Features

- Increased specificity
  - Laterality
  - Digits
- Permutations of different factors
  - E.g., diabetic complications by each cause of diabetes
- Type of encounter: initial, subsequent, sequela
- Specificity most apparent for injury diagnoses

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## ICD-9-CM Procedure Codes

- 3-4 characters
- Decimal point after 2<sup>nd</sup> character
- Numbers only
- Can have leading and trailing zeros
- Hierarchical classification (sort of)

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## ICD-10-PCS Procedure Codes

- Always 7 characters
- No decimal points!
- Numbers and letters (but no "I"s or "O"s used)
- Each character has a particular function
- Multi-axial, semi-independent approach

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ICD-9-CM			ICD-10-PCS	
Chapter	Code	Description	Section	Description
00	00	Procedures and Interventions, Not Elsewhere Classified	0	Medical and Surgical
1	01-07	Operations on the Nervous System	1	Central Nervous System
2	08-07	Operations on the Endocrine System	2	Peripheral Nervous System
3	08-14	Operations on the Eye	3	Head and Great Vessels
3A	17	Other Miscellaneous Diagnostic and Therapeutic Procedures	4	Upper Extremities
4	18-20	Operations on the Ear	5	Lower Extremities
5	21-29	Operations on the Nose, Mouth, and Pharynx	6	Upper Trunk
6	30-34	Operations on the Respiratory System	7	Lower Trunk
7	35-39	Operations on the Cardiovascular System	8	Lymphatic and Hemat Systems
8	40-42	Operations on the Thoracic and Lymphatic Systems	9	Eye
9	43-54	Operations on the Digestive System	A	Ear, Nose, Throat
10	55-59	Operations on the Urinary System	B	Respiratory System
11	60-64	Operations on the Male Genital Organs	C	Mouth and Throat
12	65-71	Operations on the Female Genital Organs	D	Gastrointestinal System
13	72-75	Operational Procedures	E	Genitourinary System and Perineum
14	76-84	Operations on the Musculoskeletal System	F	Endocrine System
15	85-88	Operations on the Integumentary System	G	Skin and Breast
16	87-89	Miscellaneous Diagnostic and Therapeutic Procedures	H	Subcutaneous Tissue and Fascia
			I	Muscle
			J	Tendon
			K	Bone and Ligament
			L	Head and Facial Bones
			M	Upper Limb
			N	Lower Limb
			O	Upper Limb
			P	Lower Limb
			Q	Upper Limb
			R	Lower Limb
			S	Female Reproductive System
			T	Male Reproductive System
			U	Accidental Region, General
			V	Accidental Region, Upper Extremities
			W	Accidental Region, Lower Extremities
			X	Obstetrics
			Y	Prenatal
			Z	Postnatal
				Measurement and Monitoring
				Extracorporeal Assistance and Performance
				Extracorporeal Therapy
				Organ transplantation
				Other Procedures
				Chemotherapy
				Immunology
				Nuclear Medicine
				Radiation Therapy
				Physical Rehabilitation and Diagnostic Audiology
				Mental Health
				Substance Abuse Treatment

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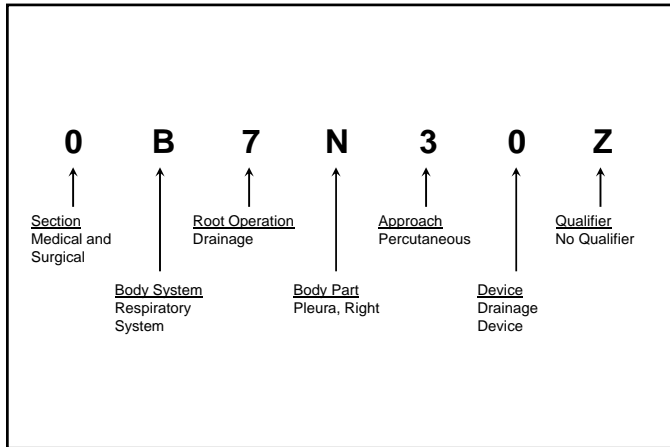
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## Whipple Procedure

**ICD-9-CM:**  
**52.7**   Radical pancreaticoduodenectomy

**ICD-10-PCS:**  
**0FBG**   Excision of pancreas  
**0DT9**   Resection of duodenum  
**0F19**   Bypass of common bile duct  
**0D16**   Bypass of stomach  
**0F1D**   Bypass of pancreas

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## Root Operations

Alteration	Extirpation	Removal
Bypass	Extraction	Repair
Change	Fragmentation	Replacement
Control	Fusion	Reposition
Creation	Insertion	Resection
Destruction	Inspection	Restriction
Detachment	Map	Revision
Dilation	Occlusion	Supplement
Division	Reattachment	Transfer
Drainage	Release	Transplantation
Excision		

## Root Operation

Table 1. Continued

Root operation	Definition	Explanation	Examples
Replacement	Putting in or on biological or synthetic material that physically takes the place and/or function of all or a portion of a body part	The body part may have been taken out or replaced, or may be taken out, physically eradicated, or rendered nonfunctional during the Replacement procedure. A Removal procedure is coded for taking out the device used in a previous replacement procedure	Total hip replacement, bone graft, free skin graft
Reposition	Moving to its normal location, or other suitable location, all or a portion of a body part	The body part is moved to a new location from an abnormal location, or from a normal location where it is not functioning correctly. The body part may or may not be cut out or off to be moved to the new location	Reposition of undescended testicle, fracture reduction
Resection	Cutting out or off, without replacement, all of a body part		Total nephrectomy, total lobectomy of lung
Restriction	Partially closing an orifice or the lumen of a tubular body part	The orifice can be a natural orifice or an artificially created orifice	Esophagogastric fundoplication, cervical cerclage

## Root Operation

- 31 options
- Very specific definitions, important to understand
- Not always intuitive:
  - “Excision” versus “resection”
  - Colostomy = “bypass” or “drainage”
  - Parturition = “extraction of products of conception”
  - Aneurysm repair = “bypass”? “replacement”? “supplement”?
  - “Repair” reserved for use as a last resort



## Approach

- Open
- Percutaneous
- Percutaneous endoscopic
- Via natural or artificial opening
- Via natural or artificial opening, endoscopic
- Via natural or artificial opening with percutaneous endoscopic assistance
- External

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Section <b>O</b> Medical and Surgical			
Body System <b>W</b> Anatomical Regions, General			
Operation <b>H</b> Insertion: Putting in a nonbiological appliance that monitors, assists, performs, or prevents a physiological function but does not physically take the place of a body part			
Body Part	Approach	Device	Qualifier
<b>0</b> Head <b>1</b> Cranial Cavity <b>2</b> Face <b>3</b> Oral Cavity and Throat <b>4</b> Upper Jaw <b>5</b> Lower Jaw <b>6</b> Neck <b>8</b> Chest Wall <b>9</b> Pleural Cavity, Right <b>B</b> Pleural Cavity, Left <b>C</b> Mediastinum <b>D</b> Pericardial Cavity <b>F</b> Abdominal Wall <b>G</b> Peritoneal Cavity <b>H</b> Retroperitoneum <b>J</b> Pelvic Cavity <b>K</b> Upper Back <b>L</b> Lower Back <b>M</b> Perineum, Male <b>N</b> Perineum, Female	<b>0</b> Open <b>3</b> Percutaneous <b>4</b> Percutaneous Endoscopic	<b>1</b> Radioactive Element <b>3</b> Infusion Device <b>Y</b> Other Device	<b>Z</b> No Qualifier
<b>P</b> Gastrointestinal Tract <b>Q</b> Respiratory Tract <b>R</b> Genitourinary Tract	<b>0</b> Open <b>3</b> Percutaneous <b>4</b> Percutaneous Endoscopic <b>7</b> Via Natural or Artificial Opening <b>8</b> Via Natural or Artificial Opening Endoscopic	<b>1</b> Radioactive Element <b>3</b> Infusion Device <b>Y</b> Other Device	<b>Z</b> No Qualifier

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## ICD-10-PCS Challenges

- No eponyms
- Agnostic to diagnosis
- Might prove difficult to capture permutations of a procedure
- Ambiguity of root operations
- Nuances of approach

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## Whipple Procedure

### ICD-10-PCS:

0FBG	Excision of pancreas
0DT9	Resection of duodenum
0F19	Bypass of common bile duct
0D16	Bypass of stomach
0F1D	Bypass of pancreas

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## ICD-10-PCS Coding Guidelines

- Select all applicable codes constituting procedure
  - But not components inherent to an already coded procedure
- Code separately if multiple parts/sites for same root
- Code separately if multiple roots apply to same part
- Code for attempted approaches, even if not successful
- Coders, not physicians, responsible for determining root

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## General Equivalence Mappings

- Available on CMS' website
- "Reference mapping;" not a one-to-one translation
- Forward and backward directions
- Flags to indicate:
  - Approximate mapping
  - No available mapping
  - Mapping to combination of codes
- Helpful for handling large numbers of codes

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## General Equivalence Mappings

### ICD-9-CM:

540.0 Acute appendicitis with generalized peritonitis

### ICD-10-CM:

K35.2 Acute appendicitis with generalized peritonitis

### ICD-9-CM:

540.1 Acute appendicitis with peritoneal abscess

### ICD-10-CM:

K35.3 Acute appendicitis with localized peritonitis

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### K35 Acute appendicitis

#### K35.2 Acute appendicitis with generalized peritonitis

Appendicitis (acute) with generalized (diffuse) peritonitis following rupture or perforation of appendix  
Appendicitis with peritonitis NOS  
Perforated appendix NOS  
Ruptured appendix NOS

#### K35.3 Acute appendicitis with localized peritonitis

Acute appendicitis with localized peritonitis with or without rupture or perforation of appendix  
Acute appendicitis with peritoneal abscess

#### K35.8 Other and unspecified acute appendicitis

##### K35.80 Unspecified acute appendicitis

Acute appendicitis NOS  
Acute appendicitis without (localized) (generalized) peritonitis

##### K35.89 Other acute appendicitis

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## Really?

W61.62 Struck by duck  
W59.22 Struck by turtle  
Y92.254 Theater (live) as the place of occurrence of the external cause  
T50.5X6A Underdosing of appetite suppressants  
Z63.1 Problems in relationship with in-laws  
V91.07XA

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## Pushing the Envelope

02TH3ZZ Percutaneous resection of the pulmonary valve  
0BTM4ZZ Percutaneous endoscopic resection of the lungs (bilateral)  
0FM4 Reattachment of the gallbladder  
0D59 Destruction of the duodenum

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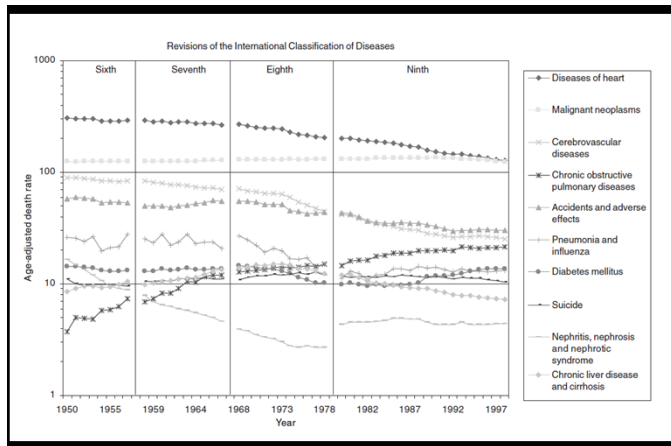
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## ICD-10 Validity

- Need for dually coded datasets
- ICD-10-CA functioned comparably to ICD-9-CM
  - 4008 charts at 4 teaching hospitals
  - Similar sensitivity and PPV in dually coded data
- ICD-10-CM no better than ICD-9-CM in information content
  - 50 clinical notes from 4 academic centers
  - Encompassed 3061 “clinical concepts”

Quan, *Health Serv Res*, 2008

Chute, *Health Aff*, 2012

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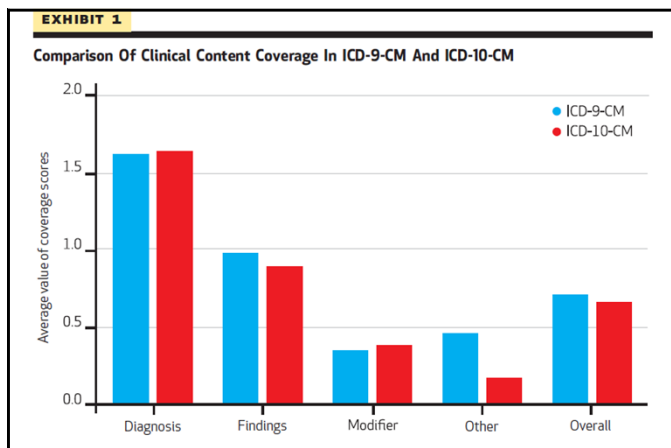
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## Uncertainties

- Worker's Comp might still require ICD-9-CM?
- AMA, others requested eliminating ICD-10 implementation
- Go straight to ICD-11?
- Proposed legislation to prohibit ICD-10-CM/PCS implementation



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## Known Unknowns

- Many codes probably won't be used
  - Limited documentation
  - Encoding software
  - Finite fields, coder time
- Need for more complicated logic to leverage data
- Coding ambiguities
- Certain approaches will have to be abandoned
- Possibility of answering new questions

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