ICD-10 Update

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ICD-10 Update Topics

- A Word (or two) about Numbers
- MS-DRG Conversion to ICD-10
  - Conversion of MDC 6 is complete
  - Report on MS-DRGs conversion process
  - Final ICD-10 version of MS-DRGs will be subject to rulemaking
- ICD-10 Reimbursement Mappings
- ICD-10 General Equivalence Mappings (GEMs) Update
- ICD-10-PCS Update

A Large Number of Codes Does Not Mean Greater Complexity

Complexity comes from...

- Inconsistency
  - Varying levels of detail are difficult to compare
- Incompleteness
  - Overuse of NEC and NOS do not make good data
- Ambiguity in the system
  - Nonstandardized code elements
  and undefined terms in codes
  result in inconsistent coding
- Lack of capacity
  - ICD-9-CM no longer adheres
  to the structure of its own classification

Example
ICD-10-CM Code Structure

S34 Injury of lumbar and sacral spinal cord and nerves at

abdomen, lower back and pelvis level

Code to highest level of lumbar cord injury

Code also any associated:

fracture of vertebra (S22.0-, S32.0-)

open wound of abdomen, lower back and pelvis (S31.-)

transient paralysis (R29.5)

The appropriate 7th character is to be added to each code from category S34

A initial encounter

D subsequent encounter

S sequela

S34.0 Concussion and edema of lumbar and sacral

spinal cord

S34.01 Concussion and edema of lumbar spinal cord

S34.02 Concussion and edema of sacral spinal cord

- 1,922 I-10-CM three-character diagnosis categories
  - 1,025 I-9-CM three-character diagnosis categories
- 32,074 I-10-CM codes without 7th character extension
  - vs. 13,678 codes in the 2008 version of ICD-9-CM
- 45 unique values for 7th character extensions
  - 82% of the codes with 7th character extensions are in the injury and poisoning chapters

Example
ICD-10-PCS Code Structure

1st Character Section	2nd Character Body System	3rd Character Root Operation	4th Character Body Part	5th Character Approach	6th Character Device	7th Character Qualifier
1	31	30	852	8	53	266

- 1,241 different concepts in Med/Surg section
  - ~90% of all PCS codes are built from these concepts
  - Since body parts are self-evident, only ~350 *defined* PCS concepts need to be learned to attain coding proficiency
- Complete, consistent, defined in the system
- Flexible, expandable, endlessly aggregable

Condensed ICD-10 Descriptions

For this presentation—

Examples may contain condensed codes and descriptions

- All ICD-10 Codes—An asterisk (*) means all valid possibilities for codes in that category or subcategory are included
  - *A00* Cholera (3 codes)*
    - All three ICD-10-CM cholera codes apply to the example
- ICD-10-PCS Codes—All valid possibilities for an axis of classification are displayed in square brackets
  - *0DN9[034]ZZ Release Duodenum (3 codes)*
    - All three ICD-10-PCS approaches apply to the example

6

MS-DRG Conversion Goals

- Coded in I-9 or I-10, the same patient is assigned to the same MS-DRG
- Clinically equivalent
- Definitions manual has familiar look and feel

MDC 6, DISEASES & DISORDERS OF THE DIGESTIVE SYSTEM

A00* Cholera (3 codes)
A020 Salmonella enteritis
A03* Shigellosis (6 codes)
A04* Other bacterial intestinal infections (10 codes)
A050 Foodborne staphylococcal intoxication
A052 Foodborne Clostridium perfringens [Clostridium welchii] intoxication
A053 Foodborne Vibrio parahaemolyticus intoxication
A054 Foodborne Bacillus cereus intoxication
A055 Foodborne Vibrio vulnificus intoxication
A058 Other specified bacterial foodborne intoxications
A059 Bacterial foodborne intoxication, unspecified

MS-DRG Conversion Requirements

- Uses only I-10 codes
- Replicates current DRG logic
  - Minor departures where necessary

DRG 335 Peritoneal adhesiolysis w MCC
DRG 336 Peritoneal adhesiolysis w CC
DRG 337 Peritoneal adhesiolysis w/o CC/MCC

Operating Room Procedures
0DN8[0234]ZZ Release Small Intestine (4 codes)
0DN9[0234]ZZ Release Duodenum (4 codes)
0DNA[0234]ZZ Release Jejunum (4 codes)
0DNB[0234]ZZ Release Ileum (4 codes)
0DNC[034]ZZ Release Ileocecal Valve (3 codes)
0DN[EFG][0234]ZZ Release Large Intestine (12 codes)
0DNH[0234]ZZ Release Cecum (4 codes)
0DNJ[0234]ZZ Release Appendix (4 codes)
0DNK[0234]ZZ Release Ascending Colon (4 codes)
0DNL[0234]ZZ Release Transverse Colon (4 codes)
0DNM[0234]ZZ Release Descending Colon (4 codes)
0DNN[0234]ZZ Release Sigmoid Colon (4 codes)
0DN[ST]*** Release Omentum (6 codes)
0DNV*** Release Mesentery (3 codes)
**0DNW***** Release Peritoneum (3 codes)

ICD-10 GEMs
(General Equivalence Mappings)

- General purpose translation aid
- Consists of four GEM files with documentation and annual updates at the end of the year
  - Public domain diagnosis mappings on NCHS website
    - ICD-10-CM to ICD-9-CM
    - ICD-9-CM to ICD-10-CM
  - Public domain procedure mappings on CMS website
    - ICD-10-PCS to ICD-9-CM
    - ICD-9-CM to ICD-10-PCS

MS-DRG Conversion Principle

Benign neoplasm of colon, rectum, anus and anal canal
- **D120** Benign neoplasm of cecum
- **D121** Benign neoplasm of appendix
- **D122** Benign neoplasm of ascending colon
- **D123** Benign neoplasm of transverse colon
- **D124** Benign neoplasm of descending colon
- **D125** Benign neoplasm of sigmoid colon
- **D126** Benign neoplasm of colon, unspecified
- **D127** Benign neoplasm of rectosigmoid junction
- **D128** Benign neoplasm of rectum
- **D129** Benign neoplasm of anus and anal canal

ICD-9 codes...
- **2113** Benign neoplasm lg bowel
- **2114** Benign neopl rectum/anus
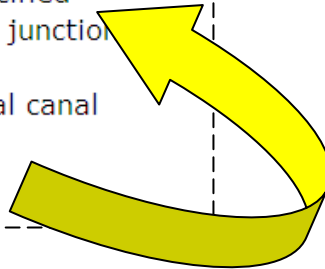
Wherever possible, assign an I-10 code to the same DRG(s) as the I-9 code it was translated to in the I-10 to I-9 GEM

393 Other digestive system diagnoses w MCC
394 Other digestive system diagnoses w CC
395 Other digestive system diagnoses w/o CC/MCC

PRINCIPAL DIAGNOSIS
A511	Primary anal syphilis
A546	Gonococcal infection of anus and rectum
A563	Chlamydial infection of anus and rectum
B0081	Herpesviral hepatitis
	Benign neoplasm of colon, rectum, anus and anal canal (10 codes)
	D120 Benign neoplasm of cecum
	D121 Benign neoplasm of appendix
	D122 Benign neoplasm of ascending colon
	D123 Benign neoplasm of transverse colon
	D124 Benign neoplasm of descending colon
	D125 Benign neoplasm of sigmoid colon
D12*	**D126** Benign neoplasm of colon, unspecified
	D127 Benign neoplasm of rectosigmoid junction
	D128 Benign neoplasm of rectum
	D129 Benign neoplasm of anus and anal canal

ICD-10 definitions manual

10

Find and Replace Diagnosis Codes

DRG385 INFLAMMATORY BOWEL DISEASE W MCC
DRG386 INFLAMMATORY BOWEL DISEASE W CC
DRG387 INFLAMMATORY BOWEL DISEASE W/O CC/MCC
PRINCIPAL DIAGNOSIS
5550 Reg enteritis, sm intest
5551 Reg enteritis, lg intest
5552 Reg enterit sm/lg intest
5559 Regional enteritis NOS

# of ICD-9-CM codes: 4

is replaced by

DRG 385 Inflammatory bowel disease w MCC
DRG 386 Inflammatory bowel disease w CC
DRG 387 Inflammatory bowel disease w/o CC/MCC

Principal Diagnosis
K5000 Crohn's disease of small intestine without complications
K50011 Crohn's disease of small intestine with rectal bleeding
K50012 Crohn's disease of small intestine with intestinal obstruction
K50013 Crohn's disease of small intestine with fistula
K50014 Crohn's disease of small intestine with abscess
K50018 Crohn's disease of small intestine with other complication
K50019 Crohn's disease of small intestine with unspecified complications
K5010 Crohn's disease of large intestine without complications
K50111 Crohn's disease of large intestine with rectal bleeding
K50112 Crohn's disease of large intestine with intestinal obstruction
K50113 Crohn's disease of large intestine with fistula
K50114 Crohn's disease of large intestine with abscess
K50118 Crohn's disease of large intestine with other complication
K50119 Crohn's disease of large intestine with unspecified complications
K5080 Crohn's disease of both small and large intestine without complications
K50811 Crohn's disease of both small and large intestine with rectal bleeding
K50812 Crohn's disease of both small and large intestine with intestinal obstruction
K50813 Crohn's disease of both small and large intestine with fistula
K50814 Crohn's disease of both small and large intestine with abscess
K50818 Crohn's disease of both small and large intestine with other complication

# of ICD-10-CM codes: 28

Find and Replace Procedure Codes

DRG335 PERITONEAL ADHESIOLYSIS W MCC
DRG336 PERITONEAL ADHESIOLYSIS W CC
DRG337 PERITONEAL ADHESIOLYSIS W/O CC/MCC
OPERATING ROOM PROCEDURES
5451 Lap periton adhesiolysis
5459 Oth periton adhesiolysis

# of ICD-9-CM codes: 2

is replaced by

# of ICD-10-PCS codes: 112

PCS root operation definition **Release**: Freeing a body part from an external physical constraint

DRG 335 Peritoneal adhesiolysis w MCC
DRG 336 Peritoneal adhesiolysis w CC
DRG 337 Peritoneal adhesiolysis w/o CC/MCC
Operating Room Procedures: lysis
0DN80ZZ Release Small Intestine, Open Approach
0DN82ZZ Release Small Intestine, Open Endoscopic Approach
0DN83ZZ Release Small Intestine, Percutaneous Approach
0DN84ZZ Release Small Intestine, Percutaneous Endoscopic Approach
0DN90ZZ Release Duodenum, Open Approach
0DN92ZZ Release Duodenum, Open Endoscopic Approach
0DN93ZZ Release Duodenum, Percutaneous Approach
0DN94ZZ Release Duodenum, Percutaneous Endoscopic Approach
0DNA0ZZ Release Jejunum, Open Approach
0DNA2ZZ Release Jejunum, Open Endoscopic Approach
0DNA3ZZ Release Jejunum, Percutaneous Approach
0DNA4ZZ Release Jejunum, Percutaneous Endoscopic Approach
0DNB0ZZ Release Ileum, Open Approach
0DNB2ZZ Release Ileum, Open Endoscopic Approach
0DNB3ZZ Release Ileum, Percutaneous Approach
0DNB4ZZ Release Ileum, Percutaneous Endoscopic Approach
0DNE0ZZ Release Large Intestine, Open Approach
0DNE2ZZ Release Large Intestine, Open Endoscopic Approach

"Find and Replace" Conversion Process is...

- *Fundamental*
  - The task of I-10 conversion consists of a straightforward replacement of individual I-9 codes and lists of codes with their I-10 counterparts
- *Repeatable*
  - Can be used as many times as needed to replicate the hierarchy of relationships in MS-DRGs
- *Adaptable*
  - Can be used to convert any I-9 based application or system so that it can process comparable I-10 codes
- *Flexible*
  - Can be used to convert "list to list" applications as well as "code to code" applications. Works for any size of application, from MS-DRGs to a facility's one-page document outlining treatment protocol for MRSA

Conversion of MS-DRGs

- At first, conversion of MS-DRGs to I-10 appeared more difficult than it turned out to be
- MS-DRGs are composed of logical relationships among lists of I-9 codes
  - Conversion to I-10 leaves the logic of MS-DRGs unchanged
- *Only* the I-9 lists of codes that underlie MS-DRGs need to be converted
  - The conversion of the I-9 code lists to I-10 code lists is straightforward
  - A process of "find and replace"
  - Can be partially automated

"Find and Replace" Process Used for Converting MS-DRGs

Find

- For the I-9 codes in an MS-DRG code list, find the corresponding I-10 code(s) in the I-10 to I-9 GEM

Replace

- Convert each I-9 code list to the corresponding I-10 codes assigned by the I-10 to I-9 GEM

- Review and evaluate the results of GEM-based automated replacement

- *Underlying DRG assignment logic is untouched*

MS-DRGs Conversion Summary

	Diagnosis codes	Procedure codes	Total
No. of unique lists in MS-DRGs	~200	~300	~500
Codes in MDC 6 lists auto-replaced by GEMs	99%	91%	95%
Codes in MDC 6 lists auto-replaced by GEMs and modified by clinical review	1%	9%	5%

- A fixed, manageable number of lists in MS-DRGs
- The GEMs produce 95% of the mapping without any need for review
- The remaining 5% is based on MDC 6
  - Need for review of the remaining MDCs is expected to steadily decrease
  - As the rules derived for MDC 6 are applied to the remaining MDCs, fewer codes will need clinical review
- MDC 6 conversion to ICD-10 is complete
  - To be posted on the CMS website by 12/31/2008

Issues Discovered in Converting MS-DRGs

- Overly broad I-9 procedure codes
  - Lack of anatomic specificity, NOS procedures
  - Require list-specific criteria for identifying the appropriate anatomic subset of PCS codes that belong on a list
- I-9 code conflicts
  - When an I-10 code does not contain a distinction found in two or more I-9 codes, all the I-9 codes are mapped to the same I-10 code
    - A conflict exists if the I-9 codes are in different MS-DRGs
    - This is to be expected between code sets with significant differences in design and structure

Overly Broad I-9 Procedure Codes

- Should an I-9 procedure code be replaced with *all* associated PCS codes *everywhere* an I-9 code is listed?
  - A PCS code may be irrelevant to a list because of its anatomic or root operation specificity

- ~200 overly broad I-9 procedure codes identified

Because PCS codes always specify body part, approach and device, 261 PCS codes are translated to 92.27.

Examples of Overly Broad I-9 Codes

I-9	Description
92.27	Radioactive elem implant
86.09	Skin & subq incision NEC
83.82	Muscle or fascia graft
81.96	Other repair of joint
80.19	Other arthrotomy NEC
77.19	Bone incis w/o div NEC
39.50	Angio oth non-coronary
39.31	Suture of artery
39.29	Vasc shunt & bypass NEC
38.21	Blood vessel biopsy
01.24	Other craniotomy
04.04	Peripheral nerve incis NEC

Solution for I-9 Overly Broad Procedure Codes

- Limit the assignment of PCS codes associated with overly broad I-9 codes to anatomic sites corresponding to each MDC

MDC 6 Example:

MS-DRGs 356, 357, 358 Other Digestive System O.R. Procedures

92.27 Implantation or Insertion of Radioactive Elements

- For procedure 92.27, only 10 of the 261 PCS codes are assigned to MDC 6

| **Likely** in MDC 6	**Extremely Unlikely** in MDC 6
0DH571Z Insertion of Radioactive Element into Esophagus, Via Natural or Artificial Opening	08H0X1Z Insertion of Radioactive Element into Right Eye, External Approach
0DHP81Z Insertion of Radioactive Element into Rectum, Via Natural or Artificial Opening Endoscopic	0BHL01Z Insertion of Radioactive Element into Left Lung, Open Approach
	0HHU31Z Insertion of Radioactive Element into Left Breast, Percutaneous Approach

I-9 Code Conflicts

- I-9 codes may contain detail not pertinent to current understanding of disease or to a PCS axis of classification
  - I-9 diagnosis codes may use outmoded terminology
  - I-9 procedure codes may include diagnosis information (e.g., drainage of a cyst, drainage of an abscess)
- In such cases, the I-10 code is assigned to the I-9 code that results in the most appropriate MS-DRG assignment

I-9 Code Conflicts

Conflict: Where an I-10 code is assigned to more than one I-9 code *and* the I-9 codes are assigned to different MS-DRGs

I09.89 Other specified rheumatic heart diseases

Rheumatic disease of pulmonary valve

I09.89 combines the descriptions of two I-9 codes. All other rheumatic diseases of the heart currently classified have unique codes in ICD-10-CM, and according to frequency data I-9 code 398.99 is rarely used.
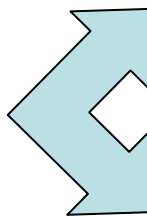
398.99 Other rheumatic heart diseases

in MDC 5 DRG 314,315,316 Other circulatory system diagnoses

397.1   Rheumatic diseases of pulmonary valve

in MDC 5 DRG 306,307 Cardiac congenital & valvular disorders

To resolve the conflict for I-10 code I09.89, the I-10 code is assigned to the I-9 code 397.1, which results in the most appropriate MS-DRG assignment

21

The GEMs and the Reimbursement Mappings

- The GEMs are designed to aid in converting applications and systems from I-9 to I-10
  - General purpose translation aid
  - For "finding and replacing" codes or lists of codes
- The reimbursement mappings are designed to be interposed between data submitted using I-10 codes and legacy systems using I-9 codes so data can continue to be processed without converting the legacy system to I-10
  - Interim measure while systems are being converted

The Reimbursement Mappings

- In the GEMs, a single I-10 code can be translated to two or more alternative I-9 codes

  - *I09.89 Other specified rheumatic heart diseases* is associated with

    - 397.1 Rheumatic diseases of pulmonary valve

    - 398.99 Other rheumatic heart diseases

- The reimbursement mapping will indicate which alternative I-9 code is the most appropriate choice for reimbursement

The Reimbursement Mappings May Require Multiple I-9 Codes

- Because ICD-10-PCS contains a *complete* description of the procedure, and ICD-10-CM may contain both specification of the underlying disease and a current exacerbation or complication, multiple I-9 codes may be necessary to attain the same level of completeness
  - ~3% of I-10 codes are assigned to an "I-9 code cluster"
    - I25.110 Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
    - 0270346 Dilation of Coronary Artery, One Site, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach

Development of Reimbursement Mappings

- Start with the I-10 to I-9 GEM
- Where an I-10 code is translated to one I-9 code, no additional review is necessary
  - 95% of the I-10 codes are translated to a single I-9 code
  - Many 1-10 codes are translated to the same I-9 code
- Where an I-10 code is translated to more than one I-9 code, historical I-9 code frequency data are used to determine the most commonly used I-9 code among the I-9 code alternatives
  - MedPAR and California (for newborn and OB codes) data were used
  - In the vast majority of cases there is a clear dominant code in terms of frequency
  - In rare cases, clinical review is needed to make the final choice

Reimbursement Mappings

- All I-10 codes with an entry in the GEMs are included

- Each I-10 code is assigned to a single I-9 code or I-9 code cluster

  - I-9 code cluster contains two or more I-9 codes that must be used in combination to attain the complete meaning of one I-10 code

Assigned for reimbursement:
S72.032G Displaced midcervical fracture of left femur, subsequent encounter for closed fracture with delayed healing
is assigned to this I-9 single code:
820.02 Fracture of midcervical section of femur, closed

Assigned for reimbursement:
02733D6 Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Intraluminal Device, Percutaneous Approach
is assigned to this I-9 code cluster:
00.66 [PTCA] or coronary atherectomy
00.43 Procedure on four or more vessels
00.48 Insertion of four or more vascular stents
36.06 Insertion of non-drug eluting coronary stent(s)
00.44 Procedure on vessel bifurcation

Reimbursement Mappings Format

- Separate files, not part of the GEM files
  - Two files, a diagnosis code reimbursement mapping and a procedure code reimbursement mapping
- Seven-character field for I-10 code
- Up to three, five-character fields for I-9 diagnoses
- Up to five, four-character fields for I-9 procedures

Reimbursement Mapping Examples

ICD-10-CM	**Single I-9 code**
S72032G	82002
ICD-10-PCS	**I-9 code cluster:**
02733D6	*0066 0043 0048 3606 0044*

ICD-10 General Equivalence Mappings (GEMs) Update

- GEMs will be posted by December 31, 2008
  - Diagnosis GEMs on NCHS website
  - Procedure GEMs on CMS website
- GEMs will be updated for the 2009 versions of ICD-9-CM, ICD-10-CM and ICD-10-PCS codes

Note: Reimbursement mapping is a separate file, on CMS website only

ICD-10-PCS 2009 Annual Update

- Annual release schedule
- PCS Body Part Key completed
- New root operation: *Supplement*
- Further streamlining of Med/Surg section codes pertaining to body parts that use devices

PCS Body Part Key

Carpal Bone, Right	Capitate Bone
Carpal Bone, Right	Hamate Bone
Carpal Bone, Right	Lunate Bone
Carpal Bone, Right	Pisiform Bone
Carpal Bone, Right	Trapezium Bone
Carpal Bone, Right	Trapezoid Bone
Carpal Bone, Right	Triquetral Bone
Carpal Bone, Left	Capitate Bone
Carpal Bone, Left	Hamate Bone
Carpal Bone, Left	Lunate Bone
Carpal Bone, Left	Pisiform Bone
Carpal Bone, Left	Trapezium Bone
Carpal Bone, Left	Trapezoid Bone
Carpal Bone, Left	Triquetral Bone

- Help users choose the correct PCS body part for a given anatomical term or procedure site
- To be included in 2009 ICD-10-PCS version
- Public domain reference to accompany PCS Tables
- Arranged by anatomical term *and* PCS body part
- PCS Key is "official" (as ICD-9-CM includes notes are official)

New Root Operation: *Supplement*

– Distinguishes between procedures where a body part is *physically replaced* with biologic or synthetic material (root operation Replacement) and where a body part is *reinforced or augmented* with biologic or synthetic material (new root operation)

Supplement

Putting in or on biological or synthetic material that physically reinforces and/or augments the function of a portion of a body part

Explanation

The biological material is non-living, or the biological material is living and from the same individual. The body part may have been previously replaced. If the body part has been previously replaced, the Supplement procedure is performed to physically reinforce and/or augment the function of the replaced body part.

Examples

Herniorrhaphy using mesh, free nerve graft, mitral valve ring annuloplasty, put in a new acetabular liner in a previous hip replacement

Body Part Specificity For Codes with Devices

- Body part specificity was streamlined for codes with devices where detail was unneeded (e.g., one code in I-9 for insertion of radioactive element, 2,387 codes in PCS)
- Affects three root operations
  - Insertion, Removal, Revision
- Limited application of device codes to a smaller subset of applicable body parts for every body system
  - Example: Insertion of radioactive element previously had choices for all respiratory system body parts (126 codes), and now has choices for tracheobronchial tree, left lung and right lung (15 codes)

PCS 6th Character Device Value	2008 Version No. of Codes	2009 Version No. of Codes	Change in No. of Codes
1 Radioactive Element	3,185	572	-2,163
2 Monitoring Device	1,524	487	-1,037
3 Infusion Device	3,744	1,982	-1,762
M Electrode	1,288	452	-836
Y Other Device	3,895	489	-3,406
Total	**13,636**	**3,982**	**-9,654**

Summary

- Conversion of ICD-9 based systems and processes to ICD-10 is straightforward
  - GEMs facilitate conversion
- Conversion of MS-DRGs to ICD-10 codes is in progress
  - Preliminary version will be available October 1, 2009
  - Final version of MS-DRGs using ICD-10 codes will be subject to the rule-making process
- ICD-10 2009 update files will be available on the CMS website by December 31, 2008, including:
  - MDC 6 of MS-DRGs converted to ICD-10 codes
  - ICD-10 Reimbursement Mappings
  - ICD-10 General Equivalence Mappings (GEMs)
    - Diagnosis GEMs on NCHS website
  - ICD-10-PCS Tables, Index, Reference Manual