Importance of Current Medical Literature:
• Definitions of Conditions
• Thresholds Between Severities of Illness
• Supporting Medical Necessity Determinations
• Establishing the Physician’s Quality and Cost-Efficiency Portrayals

October 2015
General Medicine

Importance of Current Medical Literature:

- Definitions of Conditions
- Thresholds Between Severities of Illness
- Supporting Medical Necessity Determinations
- Establishing the Physician’s Quality and Cost-Efficiency Portrayals

Donald M. Blanton, MD, MS, FACEP
Fellow American College of Emergency Physicians
- Board Certified in Emergency Medicine
- Board Certified in Internal Medicine
AHIMA-Approved ICD-10-CM/PCS Trainer

(615) 972-1643 (cell: voice & text)
dblanton@cdimd.com
# Objectives

<table>
<thead>
<tr>
<th>Subject</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ICD-10</td>
<td>Understand what is new and different from ICD-9</td>
</tr>
<tr>
<td>2 Risk Adjustments</td>
<td>What they are; How they are used to determine quality, cost-efficiency, provider and hospital comparisons</td>
</tr>
<tr>
<td>3 Quality and Cost-Efficiency Analysis</td>
<td>How it is accomplished</td>
</tr>
<tr>
<td>4 Changing Reimbursements</td>
<td>Based on quality and cost-efficiency analysis and risk adjustments</td>
</tr>
</tbody>
</table>
| 5 Review of Literature Definitions           | Clinical terms and the thresholds between severities illness  
• Physicians define the terms (conditions)  
• The bureaucracy assigns relative weights to the terms                                                                                                                                        |
| 6 Translation of Medical Language into       | The translation of documented clinical language to the language of billing and processing  
• Focus upon MS-DRG, APR-DRG, and HCC methodologies                                                                                                                                               |
| Administrative Languages                     |                                                                                                                                                                                                 |
| 7 Role of Clinical Documentation Integrity   | Identify the role of CDI in translating medical language into the language of claims processing through partnering with the physician to accurately reflect the patient’s hospital course  |
ICD-10-CM/PCS is Here
Implementation: October 1, 2015

<table>
<thead>
<tr>
<th>Code Type</th>
<th>ICD-9-CM</th>
<th>ICD-10-CM ICD-10 PCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>14,567 codes</td>
<td>69,832 codes</td>
</tr>
<tr>
<td>Procedure</td>
<td>3,878 codes</td>
<td>71,920 codes</td>
</tr>
</tbody>
</table>

• **UPDATE JULY 7, 2015**: For one year past the Oct. 1, 2015 deadline, the CMS will reimburse for wrongly coded claims as long as that erroneous code is in the same broad family as the right one.
Overall Changes

- 34,250 (50%) of all ICD-10-CM codes are related to the musculoskeletal system
- 17,045 (25%) of all ICD-10-CM codes are related to fractures
- 10,582 (62%) of fracture codes to distinguish ‘right’ vs. ‘left’
- ~25,000 (36%) of all ICD-10 codes to distinguish
  - Right vs. left
  - Bilateral
  - Unspecified (use at last resort)
Clinical Changes
Expansions and Deletions

• Marked expansion of codes
  – Trauma, overdoses, or complications treatment phases
  – Office encounters
  – Asthma
  – Diabetes mellitus
  – Obstetrics (trimesters)
  – Non-pressure ulcer staging
  – Myocardial infarction timing and vessel involvement
  – Open fractures staging
  – Cerebral hemorrhage location
  – Ischemic stroke vessel involvement
  – Coma (Glasgow Coma Scale)
  – Atrial flutter and fibrillation
  – Drug underdosing

• Deletion of MD language, such as:
  – Urosepsis
    • Must say “sepsis due to UTI”
  – SIRS due to infection
    • Must say “sepsis” or “severe sepsis”
  – Accelerated or malignant hypertension
    • Must describe the organ dysfunction caused by hypertension to measure severity

MD progress notes and D/C summaries must use ICD-10-CM’s language (Index or Table) to defend the assigned code
Important Documentation Concepts For ICD-10-CM

• **Acuity**
  – Acute, chronic, acute-on-chronic
  – e.g., Acute systolic (congestive) heart failure

• **Anatomic specificity**
  – e.g., Malignant neoplasm of lower lobe, right bronchus or lung
  – e.g., Non-traumatic subarachnoid hemorrhage from left anterior communicating artery

• **Lateralization**
  – Left, right, bilateral

• **Episode of care**
  – Initial, subsequent, sequela

• **Combination codes**
  – e.g., T5801XA, Toxic effect of carbon monoxide from motor vehicle exhaust, accidental (unintentional), initial encounter

• **Present on admission identification**
  – e.g., Sepsis, pulmonary embolus, cutaneous ulcerations
  – e.g., Every chronic condition
  – Everything in the H&P; the first problem list
ICD-10-CM: Laterality, Localization

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>MS DRG CC/MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3430</td>
<td>Malignant neoplasm of lower lobe, unspecified bronchus or lung</td>
<td>CC</td>
</tr>
<tr>
<td>C3431</td>
<td>Malignant neoplasm of lower lobe, right bronchus or lung</td>
<td>CC</td>
</tr>
<tr>
<td>C3432</td>
<td>Malignant neoplasm of lower lobe, left bronchus or lung</td>
<td>CC</td>
</tr>
<tr>
<td>C3480</td>
<td>Malignant neoplasm of overlapping sites of unspecified bronchus and lung</td>
<td>CC</td>
</tr>
<tr>
<td>C3481</td>
<td>Malignant neoplasm of overlapping sites of right bronchus and lung</td>
<td>CC</td>
</tr>
<tr>
<td>C3482</td>
<td>Malignant neoplasm of overlapping sites of left bronchus and lung</td>
<td>CC</td>
</tr>
<tr>
<td>C390</td>
<td>Malignant neoplasm of upper respiratory tract, part unspecified</td>
<td></td>
</tr>
<tr>
<td>C399</td>
<td>Malignant neoplasm of lower respiratory tract, part unspecified</td>
<td></td>
</tr>
</tbody>
</table>

- Note “right” and “left” and “overlapping” lobes now have individual codes
  - There are codes without specificity
    - Use of these codes may result in lower risk-adjustment weights or payment denials
ICD-10-CM: Episode of Care
Trauma and Medication-related Events (only)

- **Initial** encounter: receiving active treatment for an injury or illness.
  - Fx care: Emergency physician, orthopedist, radiologist, etc.
  - Poisonings – initial treatment during the hospital stay

- **Subsequent** encounter: care during a period of healing or recovery.
  - Cast change, suture removal, etc.
  - Poisonings – could be during a hospital stay or immediate visit

- **Sequela**: After the healing process is complete.
  - Fx care: Arthritis remotely after trauma, etc.
  - Poisonings – If related to a long-standing consequence (e.g. anoxic encephalopathy from carbon monoxide poisoning

**ICD-10-CM: Based on pt.’s phase of healing, not physician’s encounter**
### Combination Codes in ICD-10-CM

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T5801XA</td>
<td>Toxic effect of <em>carbon monoxide</em> from <em>motor vehicle exhaust</em>, accidental (unintentional), <em>initial</em> encounter</td>
</tr>
<tr>
<td>T5801XD</td>
<td>Toxic effect of <em>carbon monoxide</em> from <em>motor vehicle exhaust</em>, accidental (unintentional), <em>subsequent</em> encounter</td>
</tr>
<tr>
<td>T5801XS</td>
<td>Toxic effect of <em>carbon monoxide</em> from <em>motor vehicle exhaust</em>, accidental (unintentional), <em>sequela</em></td>
</tr>
<tr>
<td>T5802XA</td>
<td>Toxic effect of <em>carbon monoxide</em> from <em>motor vehicle exhaust</em>, <em>intentional</em> self-harm, <em>initial</em> encounter</td>
</tr>
<tr>
<td>T5802XD</td>
<td>Toxic effect of <em>carbon monoxide</em> from <em>motor vehicle exhaust</em>, intentional self-harm, <em>subsequent</em> encounter</td>
</tr>
<tr>
<td>T5802XS</td>
<td>Toxic effect of <em>carbon monoxide</em> from <em>motor vehicle exhaust</em>, intentional self-harm, <em>sequela</em></td>
</tr>
</tbody>
</table>

**Combination codes in ICD-10**

- Toxic agent
- External cause of injury
- Intent
- Episode of care

Clinicians do not need to know the combination codes, but the information the coder needs to assign the appropriate code.
### Processing Languages all Start with ICD-10

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ICD-10-CM</strong> (Clinical Modification)</td>
<td><strong>ICD-10-PCS</strong> (Procedure Coding System)</td>
</tr>
<tr>
<td>Used by <strong>all entities:</strong></td>
<td>Used by <strong>inpatient facilities ONLY</strong></td>
</tr>
<tr>
<td>(providers &amp; facilities) for diagnoses</td>
<td>• Includes outpatient facility services rendered within the prior 72 hours of writing the inpatient order</td>
</tr>
<tr>
<td>To be used in all settings:</td>
<td>• Very different than ICD-9-CM or CPT</td>
</tr>
<tr>
<td>– Hospital inpatients</td>
<td><strong>CPT does not change!</strong></td>
</tr>
<tr>
<td>– Hospital outpatients</td>
<td>• <em>All</em> physician (inpatient, outpatient, ER, observation, hospital) procedures still utilize CPT</td>
</tr>
<tr>
<td>– Physicians offices</td>
<td></td>
</tr>
<tr>
<td>– Emergency department</td>
<td></td>
</tr>
<tr>
<td>– Home health</td>
<td></td>
</tr>
<tr>
<td>– Long-term care</td>
<td></td>
</tr>
<tr>
<td>– Rehabilitation facilities</td>
<td></td>
</tr>
</tbody>
</table>

---

**CDI MD PHYSICIAN CHAMPIONS**
CMS National Coverage Determinations
ICD-10 Codes for Home PT Monitoring

<table>
<thead>
<tr>
<th>ICD-9-CM</th>
<th>ICD-9 DX Description</th>
<th>ICD-10 CM</th>
<th>ICD-10 DX Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>269.81</td>
<td>Primary hypercoagulable state</td>
<td>D68.51</td>
<td>Activated protein C resistance</td>
</tr>
<tr>
<td>269.81</td>
<td>Primary hypercoagulable state</td>
<td>D68.52</td>
<td>Prothrombin gene mutation</td>
</tr>
<tr>
<td>269.81</td>
<td>Primary hypercoagulable state</td>
<td>D68.59</td>
<td>Other primary thrombophilia</td>
</tr>
<tr>
<td>269.81</td>
<td>Primary hypercoagulable state</td>
<td>D68.61</td>
<td>Antiphospholipid syndrome</td>
</tr>
<tr>
<td>269.81</td>
<td>Primary hypercoagulable state</td>
<td>D68.62</td>
<td>Lupus anticoagulant syndrome</td>
</tr>
<tr>
<td>415.11</td>
<td>Iatrogenic pulmonary embolism and infarction</td>
<td>I26.90</td>
<td>Septic pulmonary embolism without acute cor pulmonale</td>
</tr>
<tr>
<td>415.11</td>
<td>Iatrogenic pulmonary embolism and infarction</td>
<td>I26.99</td>
<td>Other pulmonary embolism without acute cor pulmonale</td>
</tr>
<tr>
<td>415.12</td>
<td>Septic pulmonary embolism</td>
<td>I26.91</td>
<td>Septic pulmonary embolism with acute cor pulmonale</td>
</tr>
<tr>
<td>415.12</td>
<td>Septic pulmonary embolism</td>
<td>I26.90</td>
<td>Septic pulmonary embolism without acute cor pulmonale</td>
</tr>
<tr>
<td>415.19</td>
<td>Other pulmonary embolism and infarction</td>
<td>I26.99</td>
<td>Other pulmonary embolism without acute cor pulmonale</td>
</tr>
<tr>
<td>427.31</td>
<td>Atrial fibrillation</td>
<td>I48.0</td>
<td>Paroxysmal atrial fibrillation</td>
</tr>
<tr>
<td>427.31</td>
<td>Atrial fibrillation</td>
<td>I48.2</td>
<td>Chronic atrial fibrillation</td>
</tr>
<tr>
<td>427.31</td>
<td>Atrial fibrillation</td>
<td>I48.91</td>
<td>Unspecified atrial fibrillation</td>
</tr>
</tbody>
</table>

http://tinyurl.com/CMSICD10LCDs
### Requirement for Laterality

Unspecified Laterality = Denied Claim

<table>
<thead>
<tr>
<th>ICD9</th>
<th>ICD9 Title</th>
<th>ICD10</th>
<th>ICD-10 Title</th>
<th>Mapping Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>81012</td>
<td>Open fracture of shaft of clavicle</td>
<td>S42024B</td>
<td>Nondisplaced fracture of shaft of clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81012</td>
<td>Open fracture of shaft of clavicle</td>
<td>S42025B</td>
<td>Nondisplaced fracture of shaft of unspecified clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81012</td>
<td>Open fracture of shaft of clavicle</td>
<td>S42026B</td>
<td>Nondisplaced fracture of unspecified clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81013</td>
<td>Open fracture of acromial end of clavicle</td>
<td>S42031B</td>
<td>Displaced fracture of lateral end of clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81013</td>
<td>Open fracture of acromial end of clavicle</td>
<td>S42032B</td>
<td>Displaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81013</td>
<td>Open fracture of acromial end of clavicle</td>
<td>S42033B</td>
<td>Displaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81013</td>
<td>Open fracture of acromial end of clavicle</td>
<td>S42034B</td>
<td>Nondisplaced fracture of lateral end of clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
<tr>
<td>81013</td>
<td>Open fracture of acromial end of clavicle</td>
<td>S42035B</td>
<td>Nondisplaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture</td>
<td>Approximate match</td>
</tr>
</tbody>
</table>
General Equivalence Mapping: Neurology, Neurosurgery

<table>
<thead>
<tr>
<th>ICD-9-CM</th>
<th>ICD-9-CM Diagnosis</th>
<th>ICD-10-CM</th>
<th>ICD-10-CM Diagnosis</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>4372</td>
<td>Hypertensive encephalopathy</td>
<td>I674</td>
<td>Hypertensive encephalopathy</td>
<td>Exact match</td>
</tr>
<tr>
<td>4373</td>
<td>Cerebral aneurysm, nonruptured</td>
<td>I671</td>
<td>Cerebral aneurysm, nonruptured</td>
<td>Approximate match</td>
</tr>
<tr>
<td>43811</td>
<td>Late effects of cerebrovascular disease, aphasia</td>
<td>I69020</td>
<td>Aphasia following nontraumatic subarachnoid hemorrhage</td>
<td>Approximate match</td>
</tr>
<tr>
<td>43811</td>
<td>Late effects of cerebrovascular disease, aphasia</td>
<td>I69120</td>
<td>Aphasia following nontraumatic intracerebral hemorrhage</td>
<td>Approximate match</td>
</tr>
<tr>
<td>43811</td>
<td>Late effects of cerebrovascular disease, aphasia</td>
<td>I69220</td>
<td>Aphasia following other nontraumatic intracranial hemorrhage</td>
<td>Approximate match</td>
</tr>
<tr>
<td>1911</td>
<td>Malignant neoplasm of frontal lobe</td>
<td>C711</td>
<td>Malignant neoplasm of frontal lobe</td>
<td>Exact match</td>
</tr>
<tr>
<td>1912</td>
<td>Malignant neoplasm of temporal lobe</td>
<td>C712</td>
<td>Malignant neoplasm of temporal lobe</td>
<td>Exact match</td>
</tr>
<tr>
<td>1913</td>
<td>Malignant neoplasm of parietal lobe</td>
<td>C713</td>
<td>Malignant neoplasm of parietal lobe</td>
<td>Exact match</td>
</tr>
<tr>
<td>1914</td>
<td>Malignant neoplasm of occipital lobe</td>
<td>C714</td>
<td>Malignant neoplasm of occipital lobe</td>
<td>Exact match</td>
</tr>
<tr>
<td>1915</td>
<td>Malignant neoplasm of ventricles</td>
<td>C715</td>
<td>Malignant neoplasm of cerebral ventricle</td>
<td>Exact match</td>
</tr>
<tr>
<td>1916</td>
<td>Malignant neoplasm of cerebellum nos</td>
<td>C716</td>
<td>Malignant neoplasm of cerebellum</td>
<td>Exact match</td>
</tr>
<tr>
<td>1917</td>
<td>Malignant neoplasm of brain stem</td>
<td>C717</td>
<td>Malignant neoplasm of brain stem</td>
<td>Exact match</td>
</tr>
<tr>
<td>1918</td>
<td>Malignant neoplasm of other parts of brain</td>
<td>C718</td>
<td>Malignant neoplasm of overlapping sites of brain</td>
<td>Exact match</td>
</tr>
<tr>
<td>1919</td>
<td>Malignant neoplasm of brain, unspecified</td>
<td>C719</td>
<td>Malignant neoplasm of brain, unspecified</td>
<td>Exact match</td>
</tr>
</tbody>
</table>

- This exercise will NOT capture all new ICD-10 specificities
- Validate all mappings using ICD-10 Index, Table, and Guidelines

“Caused by,” “due to,” “resulting in”
General Equivalence Mapping
Office Encounters

<table>
<thead>
<tr>
<th>V700</th>
<th>Routine general medical examination at a health care facility</th>
<th>Z0000</th>
<th>Encounter for general adult medical examination without abnormal findings</th>
<th>Approximate match</th>
</tr>
</thead>
<tbody>
<tr>
<td>V700</td>
<td>Routine general medical examination at a health care facility</td>
<td>Z0001</td>
<td>Encounter for general adult medical examination with abnormal findings</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V202</td>
<td>Routine infant or child health check</td>
<td>Z00121</td>
<td>Encounter for routine child health examination with abnormal findings</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V202</td>
<td>Routine infant or child health check</td>
<td>Z00129</td>
<td>Encounter for routine child health examination without abnormal findings</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V2031</td>
<td>Health supervision for newborn under 8 days old</td>
<td>Z00110</td>
<td>Health examination for newborn under 8 days old</td>
<td>Exact match</td>
</tr>
<tr>
<td>V2032</td>
<td>Health supervision for newborn 8 to 28 days old</td>
<td>Z00111</td>
<td>Health examination for newborn 8 to 28 days old</td>
<td>Exact match</td>
</tr>
</tbody>
</table>

This exercise will NOT capture new ICD-10 specificities
Validate all mappings using ICD-10 Index, Table, and Guidelines
General Equivalence Mapping
Office Encounters

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
<th>Match Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>V701</td>
<td>General psychiatric examination, requested by the authority</td>
<td>Z046</td>
<td>Encounter for general psychiatric examination, requested by authority</td>
<td>Exact match</td>
</tr>
<tr>
<td>V702</td>
<td>General psychiatric examination, other and unspecified</td>
<td>Z008</td>
<td>Encounter for other general examination</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V703</td>
<td>Other general medical examination for administrative purposes</td>
<td>Z020</td>
<td>Encounter for examination for admission to educational institution</td>
<td>Approximate match</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Z022</td>
<td>Encounter for examination for admission to residential institution</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V703</td>
<td>Other general medical examination for administrative purposes</td>
<td>Z024</td>
<td>Encounter for examination for driving license</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V703</td>
<td>Other general medical examination for administrative purposes</td>
<td>Z025</td>
<td>Encounter for examination for participation in sport</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V703</td>
<td>Other general medical examination for administrative purposes</td>
<td>Z026</td>
<td>Encounter for examination for insurance purposes</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V703</td>
<td>Other general medical examination for administrative purposes</td>
<td>Z0282</td>
<td>Encounter for adoption services</td>
<td>Approximate match</td>
</tr>
<tr>
<td>V703</td>
<td>Other general medical examination for administrative purposes</td>
<td>Z0289</td>
<td>Encounter for other administrative examinations</td>
<td>Approximate match</td>
</tr>
</tbody>
</table>

This exercise will NOT capture new ICD-10 specificities
Validate all mappings using ICD-10 Index, Table, and Guidelines
Vaccinations

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V061</td>
<td>Need for prophylactic vaccination and inoculation against diphtheria-tetanus-pertussis, combined [DTP] [DTaP]</td>
</tr>
<tr>
<td>V062</td>
<td>Need for prophylactic vaccination and inoculation against diphtheria-tetanus- pertussis with typhoid-paratyphoid (DTP + TAB)</td>
</tr>
<tr>
<td>V063</td>
<td>Need for prophylactic vaccination and inoculation against diphtheria-tetanus- pertussis with poliomyelitis [DTP + polio]</td>
</tr>
<tr>
<td>V064</td>
<td>Need for prophylactic vaccination and inoculation against measles-mumps-rubella (MMR)</td>
</tr>
<tr>
<td>V065</td>
<td>Need for prophylactic vaccination and inoculation against tetanus-diphtheria [Td] (DT)</td>
</tr>
<tr>
<td>V066</td>
<td>Need for prophylactic vaccination and inoculation against streptococcus pneumoniae [pneumococcus] and influenza</td>
</tr>
<tr>
<td>V068</td>
<td>Need for prophylactic vaccination and inoculation against other combinations of diseases</td>
</tr>
</tbody>
</table>

**Z23** Encounter for immunization

*Code first* any routine childhood examination

*Note:* procedure codes are required to identify the types of immunizations given.

Since providers don’t use ICD-10-PCS, CPT or HCPCS codes will define the types of vaccines given.
BACKGROUND
International Classification of Disease
World-Wide Versions

• 1893: First edition, known as the
  – International List of Causes of Death
  – Adopted by the International Statistical Institute

• 1948: Sixth revision
  – World Health Organization
  – Included causes of morbidity for the first time
    ‣ 1977: ICD-9
    ‣ 1993: ICD-10
    ‣ 2017 (tentative): ICD-11
# International Classification of Disease

## Versions

<table>
<thead>
<tr>
<th>World Health Organization</th>
<th>US-Clinical Modification (CM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICD-10</td>
<td>ICD-10-CM</td>
</tr>
</tbody>
</table>

- **ICD-9** Worldwide release 1977
- **ICD-10** Worldwide release 1993
- **ICD-11** rollout 2017 (tentative)

US-Clinical Modification (CM)

- **ICD-9-CM**, Clinical Modification 1979
- **ICD-10** (for death certificates) 1999
- **ICD-10-CM**, **ICD-10-PCS** 2015, Adopted for clinical use
- **US Adoption of ICD-11-CM/PCS** 2020 (or likely later)
The US is the last industrialized country to adopt ICD-10
The US is the *only* country to tie ICD-10 to billing & reimbursement
US Modifications: ICD-10-CM & PCS

The Cooperating Parties

1. CDC: Responsible for diagnoses
2. CMS: Responsible for inpatient procedures
3. American Hospital Association (AHA):
   - Responsible for interpreting ICD-9 & ICD-10
   - *Coding Clinic* publication, for ICD-9-CM and ICD-10-CM
4. American Health Information Management Association (AHIMA):
   - Provides input from coding community

- Notice, there is no physician group at the table
- Physicians are not in control of the use of medical language
- Physicians define clinical terms, and publish those definitions in the literature
- Relative weights are assigned to terms that in some instances, are not terms that physicians use; or, terms physicians use are not weighted at all
## Why ICD-10 CM is Important

**Physicians are being graded**
- Quality of care
- Cost-efficiency of care

**Those assessments are accessible**
- Insurers
- Public

**Assessments are linked increasingly to reimbursements**
- Medicare
- Private payers

**Analysis, portrayals of quality and cost-efficiency, reimbursements all begin with** *our medical language*
- And its translation into ICD-9 and ICD-10
Favorite Radio Station?

WIIFM
## Framework for progression of payment to clinicians and organizations in payment reform

<table>
<thead>
<tr>
<th>Description</th>
<th>Category 1: Fee-for-service—No link to quality</th>
<th>Category 2: Fee for service—Link to quality</th>
<th>Category 3: Alternative payment models built on fee for service architecture</th>
<th>Category 4: Population-based payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments based on the quality or efficiency of healthcare delivery</td>
<td>Some payment is linked to the effective management of the population or an episode of care</td>
<td>Payment is not directly triggered by service delivery; volume is not linked to payment</td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>Physician Value Based Modifier</td>
<td>Accountable care organizations</td>
<td>Pioneer accountable care organization</td>
<td>Some Medicare Advantage or Medicaid plans</td>
</tr>
<tr>
<td></td>
<td>Hospital Value Based Purchasing</td>
<td>Medical homes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduction programs for • Readmissions • Hospital acquired conditions</td>
<td>Bundled payments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>Primary care case management Some managed-care models</td>
<td>Integrated care models under fee-for-service Managed fee for Medicare—Medicaid beneficiaries</td>
<td>Some Medicare &amp;/or Medicaid managed care plans</td>
<td></td>
</tr>
<tr>
<td>What Physicians Understand Now</td>
<td>What’s Relatively New to Docs</td>
<td>Medicaid health homes</td>
<td>Medicare’s Ultimate Goal</td>
<td></td>
</tr>
</tbody>
</table>
**Center for Medicare & Medicaid Services’ Game Plan**

Framework for progression of payment to clinicians and organizations in payment reform

<table>
<thead>
<tr>
<th><strong>Category 1: Fee-for-service</strong>—No link to quality</th>
<th><strong>Category 2: Fee for service</strong>—Link to quality</th>
<th><strong>Category 3: Alternative payment models built on fee for service architecture</strong></th>
<th><strong>Category 4: Population-based payment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments based on the <strong>quality</strong> or <strong>efficiency</strong> of healthcare delivery</td>
<td>Some payment is linked to the effective management of the population or an episode of care</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medicare</strong></td>
<td>Physician Value Based Modifier</td>
<td>Accountable care organizations</td>
<td>Pioneer accountable care organization</td>
</tr>
<tr>
<td></td>
<td>Hospital Value Based Purchasing</td>
<td>Medical homes</td>
<td>Some Medicare Advantage or Medicaid plans</td>
</tr>
<tr>
<td></td>
<td>Reduction programs for • Readmissions • Hospital acquired conditions</td>
<td>Bundled payments</td>
<td></td>
</tr>
<tr>
<td><strong>Medicaid</strong></td>
<td>Primary care case management Some managed-care models</td>
<td>Integrated care models under fee-for-service Managed fee for Medicare–Medicaid beneficiaries Medicaid health homes</td>
<td>Some Medicare &amp;/or Medicaid managed care plans</td>
</tr>
</tbody>
</table>
### Framework for Progression of Payment to Clinicians and Organizations in Payment Reform

<table>
<thead>
<tr>
<th>Description</th>
<th>Category 1: Fee-for-service—No link to quality</th>
<th>Category 2: Fee for service—Link to quality</th>
<th>Category 3: Alternative payment models built on fee for service architecture</th>
<th>Category 4: Population-based payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments based on the <strong>quality</strong> or <strong>efficiency</strong> of healthcare delivery</td>
<td>Some payment is linked to the effective management of the population or an episode of care</td>
<td>Payment is not directly triggered by service delivery; volume is not linked to payment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk</td>
<td>Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g. &gt; 1 year)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>Medicare</th>
<th>Medicaid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>Physician Value Based Modifier</td>
<td>Accountable care organizations</td>
</tr>
<tr>
<td></td>
<td>Hospital Value Based Purchasing</td>
<td>Medical homes</td>
</tr>
<tr>
<td></td>
<td>Reduction programs for • Readmissions • Hospital acquired conditions</td>
<td>Bundled payments</td>
</tr>
<tr>
<td>Medicaid</td>
<td>Primary care case management Some managed-care models</td>
<td>Integrated care models under fee-for-service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Managed fee for Medicare–Medicaid beneficiaries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicaid health homes</td>
</tr>
</tbody>
</table>

ICD-10-CM codes determine how payments are adjusted
Information Input

- Physician Quality Reporting System (PQRS) - active until 2018
- Claims data
Codes go to Claim forms.

Code data used to evaluate quality & cost-efficiency

UB 04

CMS 1500
Reporting of Assessments

Physician Compare

Public

Quality Resource Use Reports (QRUR)

Confidential

• Grouped by tax ID number
• Medicare Report Card Quality, cost composite measures
  • “High”, “Average”, or “Low” for both cost and quality
• Quality from Physician Quality Reporting System (PQRS) data submission and supplemental claims information
• Cost data from claims

Now, a directory. Quality data coming soon.
- Composite score
- Each performance category
- Provider may review and submit corrections
## CMS Medicare Value Based Modifier
### 2017 Implementation (2015 Data)

<table>
<thead>
<tr>
<th>Medicare Physician Value Based Modifier</th>
<th>Quality Composite Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>+0.0%</td>
</tr>
<tr>
<td>Average</td>
<td>-2.0%</td>
</tr>
<tr>
<td>High</td>
<td>-4.0%</td>
</tr>
</tbody>
</table>

*Groups of physicians eligible for an additional +1.0x if reporting Physician Quality Reporting System quality measures and average beneficiary risk score is in the top 25% of all beneficiary risk scores.

- **Cost calculation**
  - Total per capita costs for all attributed beneficiaries and those with
    - Chronic obstructive pulmonary disease
    - Coronary artery disease
    - Heart failure
    - Diabetes
    - **Medicare Spending Per Beneficiary (MSPB)** added in 2016
Applies to All Physicians

- **Patients whose care you directed** are those for whom you billed 35 percent or more of all of their office or other outpatient E&M visits. \(( \geq 35\% )\)
  - For example, *primary care physicians* are likely to provide this level of care to many of their patients because they usually have face-to-face visits with patients more often than specialists to whom patients may be referred do.

- **Patients whose care you influenced** are those for whom you billed fewer than 35 percent of their office or other outpatient E&M visits, but 20 percent or more of all costs billed by physicians and other medical professionals. \((20 - 35\% )\)
  - For example, *surgeons or other proceduralists* might provide this level of care to many patients because of the relatively higher costs of procedures and lower volume of face-to-face office visits.

- **Patients to whose care you contributed** are those for whom you billed fewer than 35 percent of their office or other outpatient E&M visits and less than 20 percent of all costs billed by physicians and other medical professionals. \((< 20\% )\)
  - For all physicians, patients in this category are those seen episodically, whose care might be more dispersed.
Merit-based Incentive Payment System (MIPS)

• PQRS, VBPM, MU as separate programs sunset at end of 2017, replaced by MIPS
• Assess physicians with scores of 0 to 100 in each of four categories:
  1. Quality of care
  2. EHR meaningful use
  3. Use of healthcare resources (e.g., test ordering)
  4. Activities undertaken to improve clinical practice
     – MIPS quality measures updated annually
       • Professionals able to select measures used in ratings
Merit-based Incentive Payment System (MIPS)

• New system:
  – 2018: penalties/incentives: -4% to +4%
  – 2021: penalties/incentives: -9% to +“not more than 10%”

• HHS Goal
  – 2018: 50% of Medicare spending not in managed care, be in value-based payment models
  – 5% bonus for providers in alternative payment models

Source:
Risk Adjustment

• Risk adjustment accounts for patient differences that can affect their medical costs, regardless of the care provided
• Risk adjustment is a method of adjusting payments to health plans or individual providers, either higher or lower, to account for the differences in expected health costs of individuals.
  – Insurers determine their revenue needs based on a variety of factors, including trends in medical expenditures and anticipated enrollment, and determine how much to vary the premium charged to individuals or small groups of enrollees using population characteristics such as age, smoking habits, and past history of illness.
  – The risk adjustment models used in the Medicare Advantage program function as more comprehensive methods of underwriting in which diagnoses and demographic information are used to set each enrollee’s monthly capitation rate
Basic Definitions

• **Principal Diagnosis**
  – The condition established after study to be chiefly responsible for occasioning the (inpatient) admission to the hospital
    • Based on documentation of the circumstances of the inpatient admission, diagnostic approach, and treatment rendered
• **Secondary Diagnoses (comorbidities)**
  – An additional diagnosis which affects patient care in terms of requiring:
    • Clinical evaluation; or
    • Therapeutic treatment; or
    • Diagnostic procedures; or
    • Extended length of hospital stay; or
    • Increased nursing care and/or monitoring
  – Severity thresholds identified by CC/MCC (MS-DRGs); SOI, ROM (APR-DRGs)
• **Procedures**

Source: Official Guidelines for Coding and Reporting, 2015

**Diagnosis-Related Group (DRG)**

• Established by the principal diagnosis and all secondary diagnoses and procedures
• Payment categories used for the purpose of reimbursing hospitals for each case with a fixed fee regardless of the actual costs incurred
• Used in the US since 1982 to replace "cost based" reimbursement
• 745 DRGs, in 25 Major Diagnostic Categories
Measurable Outcomes

- Mortality
- Length of stay
- Pharmacologic utilization
- Radiologic utilization
- Post-procedure infections
- Readmission

\[
\frac{\text{Observed Outcomes}}{\text{Expected Outcomes}} = \text{Risk Adjusted Outcomes}
\]

\[
\text{Risk Adjusted Outcomes} = \frac{\text{Cost Efficiency}}{\text{Expenditures}}
\]
The Problem: Documentation Gaps

**Observed Outcomes**
Patient characteristics and the actual quality/cost of care

**Expected Outcomes**
Patient characteristics (e.g. age, nursing home status) and submitted ICD-9-CM or ICD-10-CM/PCS principal and secondary diagnosis and procedure codes related to the observed metric

\[ \text{Risk Adjusted Outcomes} = \frac{\text{Expected Outcomes}}{\text{Observed Outcomes}} \]

**Documentation Gap**
This is the difference between the patient’s true severity of illness (SOI) and its representation and is determined by documented language physicians use to describe a patient’s condition and treatments and how these terms are translated into ICD-9-CM or ICD-10-CM codes.

SOI = severity and complexity of illness
The Problem: Documentation Gaps

- **Observed Outcomes**
  - Patient characteristics and the actual quality/cost of care

- **Expected Outcomes**
  - Patient characteristics (e.g. age, nursing home status) and submitted ICD-9-CM or ICD-10-CM/PCS principal and secondary diagnosis and procedure codes related to the observed metric

**Risk Adjusted Outcomes** = **Adjusted Outcomes**

- The pool of “other patients” depends *not* on how sick my pt. is, but how sick my pt. looks *on paper!* - *to the coder*
  - This is based on DIAGNOSES in the
    - EP note
    - H&P
    - Progress notes
    - Operative note
    - D/C summary

**True SOI**

- Documented, Coded, and Reported SOI

SOI = severity and complexity of illness
The Problem: Documentation Gaps

**Observed Outcomes**
Patient characteristics and the actual quality/cost of care

**Expected Outcomes**
Patient characteristics (e.g. age, nursing home status) and submitted ICD-9-CM or ICD-10-CM/PCS principal and secondary diagnosis and procedure codes related to the observed metric

\[ \text{Risk Adjusted Outcomes} = \text{Expected Outcomes} \]

\[ \text{SOI} = \text{severity and complexity of illness} \]

\[ \text{SOI} = \text{Documented, Coded, and Reported} \]

Filling this gap will be the solution to:
- Reducing medical necessity denials
- Accurate quality portrayal
- Accurate cost efficiency portrayal
- Coding specificity of ICD-10
Getting Credit for your Quality of Care

• Importance of the **Discharge Summary**
  – First document at which the coders look
    • Principal diagnosis
    • Secondary diagnoses
    • Procedures
    • Linking condition and cause
      – Acute systolic heart failure due to long-standing hypertension
      – Diabetic non-pressure ulcer
      – Aphasia due to ischemic stroke
    • Identifying complexities
      – Second-line antibiotic for a pneumonia
  – Easy solution: Problem list management
Languages Translations

- Peers & Medical record
- Processing
  - Coding
  - Billing
  - Quality and Cost-efficiency assessment
  - Reimbursement adjustment

There is no

For ICD-9 & ICD-10
Translations: Medical Practice to Processing Languages

Communicating the Patient’s Severity of Illness

• MS-DRGs
  – Medicare Severity-Diagnostic Related Groups
  – CCs & MCCs (comorbidities & complications / Major . . . )

• APR-DRGs
  – All Patients Refined-DRGs
  – SOI (severity of illness), ROM (risk of mortality)

• HCCs
  – Hierarchical Condition Categories
  – Relative weights
  – Called “outpatient DRGs”

Processing languages used for:
• Billing & reimbursement
• Statistical analysis
• Quality analysis
• Cost-efficiency analysis
# MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC</th>
<th>CC</th>
<th>MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased weight)</td>
<td>(modest increased weight)</td>
<td>(major increased weight)</td>
</tr>
<tr>
<td>Altered Mental Status</td>
<td>Delirium due to a “physiological condition”</td>
<td>Toxic / Metabolic encephalopathy</td>
</tr>
<tr>
<td>Unresponsive</td>
<td>Delirium due to alcohol intoxication or drug-induced</td>
<td>Unconscious; Coma</td>
</tr>
<tr>
<td>CHF (NOS)</td>
<td>Systolic heart failure; Diastolic heart failure; Combined syst/diast HF</td>
<td>Acute systolic HF; Acute diastolic HF; Acute syst/diast HF</td>
</tr>
</tbody>
</table>

**CCs & MCCs** add relative weight to secondary diagnoses

| Symptom | Functionality | Acuity |
Hierarchical Conditions Categories (HCCs)
“Outpatient Physician DRGs”

- Based on **inpatient & outpatient** documentation and coding of certain diagnosis codes within a calendar year
- Numerical value for each diagnosis; numbers are additive to produce total risk adjusted factor (RAF)
  - Avg. pt. of avg. health: 1.0
  - Healthy: total RAF < 1.0
  - Multiple illnesses: RAF > 1.0

- Used by CMS to measure:
  - Individual physician
    - Medicare Value-Based Purchasing Modifier
  - The system
    - CMS cost per beneficiary
- Used by CMS to **fund**:
  - ACOs, IPAs, and other physician integration strategies
## HCC Methodology - Based on Calendar Year Codes

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>No chronic conditions</th>
<th>Cancer of Breast</th>
<th>Metastatic bone cancer</th>
<th>Malnutrition</th>
<th>Pressure ulcer Stage 3</th>
<th>Pressure ulcer Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 y/o female</td>
<td>0.328</td>
<td>0.328</td>
<td>0.328</td>
<td>0.328</td>
<td>0.328</td>
<td>0.328</td>
</tr>
<tr>
<td>Hx of Breast CA</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancer breast present or Rx’d</td>
<td></td>
<td>1.053</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metastasis to bone</td>
<td></td>
<td>2.276</td>
<td>2.276</td>
<td>2.276</td>
<td>2.276</td>
<td>2.276</td>
</tr>
<tr>
<td>Malnutrition</td>
<td></td>
<td></td>
<td></td>
<td>0.856</td>
<td>0.856</td>
<td>0.856</td>
</tr>
<tr>
<td>Pressure ulcer, Stage 1 or 2</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.338</td>
<td></td>
</tr>
<tr>
<td>Stage 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.488</td>
</tr>
<tr>
<td>Total RAF score</td>
<td>0.328</td>
<td>1.381</td>
<td>2.604</td>
<td>3.560</td>
<td>4.798</td>
<td>5.948</td>
</tr>
<tr>
<td>Predicted Annual Cost</td>
<td>$3280</td>
<td>$13,810</td>
<td>$26,040</td>
<td>$35,560</td>
<td>$47,130</td>
<td>$59,480</td>
</tr>
</tbody>
</table>

HCCs are used in calculating the Medicare Value-Based Purchasing Modifier and the average Medicare spending per beneficiary, 2014, $19,547. Source: data.medicare.gov
### HCCs: CAD with or without Angina

- **CAD or ischemic heart disease alone does not add weight**
- **Angina does**
  - Why is the patient on chronic nitrates?

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>HCC Code</th>
<th>Weight Community</th>
<th>Weight Institute</th>
</tr>
</thead>
<tbody>
<tr>
<td>I240</td>
<td>Acute coronary thrombosis not resulting in myocardial infarction</td>
<td>87</td>
<td>0.264</td>
<td>0.528</td>
</tr>
<tr>
<td>I241</td>
<td>Dressler's syndrome</td>
<td>87</td>
<td>0.264</td>
<td>0.528</td>
</tr>
<tr>
<td>I248</td>
<td>Other forms of acute ischemic heart disease</td>
<td>87</td>
<td>0.264</td>
<td>0.528</td>
</tr>
<tr>
<td>I249</td>
<td>Acute ischemic heart disease, unspecified</td>
<td>87</td>
<td>0.264</td>
<td>0.528</td>
</tr>
<tr>
<td>I2510</td>
<td>Atherosclerotic heart disease of native coronary artery without angina pectoris</td>
<td>0</td>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td>I25110</td>
<td>Atherosclerotic heart disease of native coronary artery with unstable angina pectoris</td>
<td>87</td>
<td>0.264</td>
<td>0.528</td>
</tr>
<tr>
<td>I25111</td>
<td>Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm</td>
<td>88</td>
<td>0.145</td>
<td>0.485</td>
</tr>
<tr>
<td>I25118</td>
<td>Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris</td>
<td>88</td>
<td>0.145</td>
<td>0.485</td>
</tr>
<tr>
<td>I25119</td>
<td>Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris</td>
<td>88</td>
<td>0.145</td>
<td>0.485</td>
</tr>
<tr>
<td>I2582</td>
<td>Chronic total occlusion of coronary artery</td>
<td>0</td>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td>I2583</td>
<td>Coronary atherosclerosis due to lipid rich plaque</td>
<td>0</td>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td>I2584</td>
<td>Coronary atherosclerosis due to calcified coronary lesion</td>
<td>0</td>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td>I2589</td>
<td>Other forms of chronic ischemic heart disease</td>
<td>0</td>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td>I259</td>
<td>Chronic ischemic heart disease, unspecified</td>
<td>0</td>
<td>Other</td>
<td>Other</td>
</tr>
</tbody>
</table>
Name that Condition!!!  
*What are we treating?*

<table>
<thead>
<tr>
<th>Medication</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Obvious</strong></td>
<td></td>
</tr>
<tr>
<td>Antiglycemic</td>
<td>Diabetes (even w/ nml BS, HbA1C)</td>
</tr>
<tr>
<td>Antihypertensive</td>
<td>Hypertension (even w/ nml BP)</td>
</tr>
<tr>
<td>Antiseizure</td>
<td>Seizure disorder</td>
</tr>
<tr>
<td><strong>No so obvious</strong></td>
<td></td>
</tr>
<tr>
<td>Long-acting nitrate</td>
<td>Angina</td>
</tr>
<tr>
<td>Antidysrhythmic</td>
<td>AF, VT (even if in NSR)</td>
</tr>
<tr>
<td>Antiretroviral</td>
<td>AIDS, HIV disease (if ever has had an AIDS-defining condition or CD4 count)</td>
</tr>
</tbody>
</table>
### Pneumonia

#### MS-DRG Pneumonia Classifications

<table>
<thead>
<tr>
<th>Simple pneumonia and pleurisy</th>
<th>Respiratory infections and inflammations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-DRG 193, 194, 195</td>
<td>(RW 1.0)</td>
</tr>
<tr>
<td><strong>Simple pneumonia and pleurisy</strong></td>
<td></td>
</tr>
<tr>
<td>• Viral pneumonia (adenovirus, RSV, parainfluenza, SARS-associated coronavirus, influenza)</td>
<td><strong>Gram-negative pneumonia</strong></td>
</tr>
<tr>
<td>• Pneumonia due to pneumococcus, streptococcus, H. flu, mycoplasma, and chlamydia</td>
<td>• Salmonella, Proteus, Serratia, Klebsiella, E. coli, Pseudomonas, or GNR nonspecified</td>
</tr>
<tr>
<td>• CAP, HAP, lobar, or bronchopneumonia for which an <strong>etiologic organism</strong> in the complex pneumonia category is <strong>not explicitly documented</strong></td>
<td>• Legionella</td>
</tr>
<tr>
<td>• Mycoplasma, chlamydia pneumonia</td>
<td>• Staph aureus (MSSA or MRSA)</td>
</tr>
<tr>
<td>• Pleurisy: adhesions lung or pleura, calcification pleura, acute, sterile, diaphragmatic, fibrous, interlobar, thickening of pleura</td>
<td>• Pulmonary tuberculosis</td>
</tr>
<tr>
<td></td>
<td>• Fungus (specified) and other odd organisms</td>
</tr>
<tr>
<td></td>
<td>• Histoplasmosis, blastomycosis, candidiasis, coccidiomycosis, tularemia</td>
</tr>
<tr>
<td></td>
<td>• Aspiration pneumonia, lipoid pneumonia</td>
</tr>
<tr>
<td></td>
<td>• Empyema with/without fistula, infected bacterial pleural effusions, pleurisy w/effusions</td>
</tr>
<tr>
<td></td>
<td>• Lung abscess, gangrenous or necrotic pneumonia</td>
</tr>
<tr>
<td></td>
<td>• Mediastinitis</td>
</tr>
</tbody>
</table>

Pneumonia must be the principal diagnosis (PDx)

Note that CAP, HCAP, HAP, or nosocomial pneumonia group to MS-DRG 193, 194, 195.

Source: ICD-10 MS-DRG Definitions Manual
Risk Factors for Higher-Weighted Pneumonias

• Aspiration
• Immunocompromised state
  – Alcoholism
  – Corticosteroid use
  – Malignancy
  – Malnutrition
  – AIDS
  – Primary immunodeficiencies
• Cystic fibrosis
  – Pseudomonas, Staph. aureus
• Lung cancer
  – Higher incidence of GNR & MRSA
• Pleural effusions requiring drainage
  – pH < 7.20 or glucose < 60 mg/dl
• Necrotizing pneumonia or lung abscess

• ICD-10-CM codes are based on the organism causing pneumonia
• What is the target organism if cultures are negative?
Pneumonia: Antibiotic Utilization

- **193–195 Simple pneumonia**
  - “Community-acquired pneumonia”
  - Levaquin – or other fluoroquinolone
  - Claforan®/Rocephin® + Zithromax® combo
  - Oselatmivir – Influenza w/o bacterial infection

- **177–179 Respiratory infections & inflammations**
  - Doxycycline – Legionnaire’s disease
  - Clindamycin = anaerobes or staph aureus
  - Ceftaroline (Teflaro®) – MRSA
  - Zosyn®/Unasyn® = Gram-negative rods, aspiration
  - Zyvox® = MRSA, other specified Gram-positives
  - Aminoglycosides – Gram-negative rods
  - Fortaz® or Maxipime® – Pseudomonas
  - Carbopenams – aspiration, pseudomonas, other GNRs
  - Vancomycin – MRSA or enterococcus (rare)
  - Amphotericin or fluconazole – Fungus
  - INH, Rifampin, Ethambutol – Possible TB

*Empiric (most often) vs. definitive treatment (on the rare occasion a sputum or reliable blood culture is helpful)*

**Uncertain diagnoses may be coded as confirmed, if documented at the time of discharge**
Coding Rules: Uncertain Diagnoses

ICD-10-CM Official Guidelines for Coding and Reporting
Section II. Selection of Principal Diagnosis
H. Uncertain Diagnosis

• If the diagnosis documented at the time of discharge is qualified as “probable”, “suspected”, “likely”, “questionable”, “possible”, or “still to be ruled out”, or other similar terms indicating uncertainty, code the condition as if it existed or was established.
  – The bases for these guidelines are the diagnostic workup, arrangements for further workup or observation, and initial therapeutic approach that correspond most closely with the established diagnosis.

• Note: Applies to INPATIENT admissions only.

Source: ICD-10-CM Official Guidelines for Coding and Reporting
Uncertain Diagnoses
Inpatient vs. Outpatient

• Inpatient
  • ‘Probable”, “suspected”, ‘likely”, or “still to be ruled out” diagnoses may be coded if **clinically reasonable** and documented at the time of discharge on the
    • Discharge summary,
    • Discharge note, or
    • Discharge order

• Outpatient or Observation
  • “Probable”, “suspected”, “likely”, “rule out” diagnoses cannot be coded at all
    • Code the condition to the highest degree of certainty for that encounter, such as symptoms, signs, abnormal test results
## MS-DRG Options

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG Title</th>
<th>Weight</th>
<th>Payment Base = $7000</th>
<th>Geometric Mean LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>177</td>
<td>RESPIRATORY INFECTIONS &amp; INFLAMMATIONS W MCC</td>
<td>1.9492</td>
<td>$13,644</td>
<td>6.2</td>
</tr>
<tr>
<td>178</td>
<td>RESPIRATORY INFECTIONS &amp; INFLAMMATIONS W CC</td>
<td>1.3909</td>
<td>$9,736</td>
<td>5.0</td>
</tr>
<tr>
<td>179</td>
<td>RESPIRATORY INFECTIONS &amp; INFLAMMATIONS W/O CC/MCC</td>
<td>0.9693</td>
<td>$6,785</td>
<td>3.7</td>
</tr>
<tr>
<td>193</td>
<td>SIMPLE PNEUMONIA &amp; PLEURISY W MCC</td>
<td>1.4491</td>
<td>$10,144</td>
<td>4.9</td>
</tr>
<tr>
<td>194</td>
<td>SIMPLE PNEUMONIA &amp; PLEURISY W CC</td>
<td>0.9688</td>
<td>$6,782</td>
<td>3.8</td>
</tr>
<tr>
<td>195</td>
<td>SIMPLE PNEUMONIA &amp; PLEURISY W/O CC/MCC</td>
<td>0.7044</td>
<td>$4,931</td>
<td>2.9</td>
</tr>
<tr>
<td>871</td>
<td>SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS W MCC</td>
<td>1.8072</td>
<td>$12,650</td>
<td>5.1</td>
</tr>
</tbody>
</table>

### Diagnosis-Related Group methodology
- Relative weight x base rate = Payment
- **CC** = Comorbidity/Complication; **MCC** = Major CC

Compare simple pneumonia vs. complex without additional RW from secondary diagnosis (w/o CC/MCC)
- RW 0.7044 to 0.9693
- Expected LOS 2.9 to 3.7 days

Sepsis? Sepsis becomes the PDx, pneumonia the MCC secondary dx
- Note RW and LOS
Specificity:  
2012 Diagnostic Criteria for **Sepsis**
Infection, documented or suspected & “some” of the following:

- **General variables**
  - Fever (> 38.3°C or 101°F)
  - Hypothermia (core temperature < 36°C)
  - Heart rate > 90/min or more than two SD above the normal value for age
  - Tachypnea
  - Altered mental status
  - Significant edema or positive fluid balance (> 20 mL/kg over 24 hr)
  - Hyperglycemia (plasma glucose > 140 mg/dL or 7.7 mmol/L) in the absence of diabetes

- **Inflammatory variables**
  - Leukocytosis (WBC count > 12,000/μL)
  - Leukopenia (WBC count < 4000/μL)
  - Normal WBC count with greater than 10% immature forms
  - Plasma C-reactive protein > two or SD above the normal value
  - Plasma procalcitonin > two or SD above the normal value

**Notice:**
+ Blood Culture is not on the list

**NOTE:** Only findings that cannot be easily explained by other causes

Specificity: **Severe Sepsis**

- **Severe sepsis**: sepsis with **acute organ dysfunction**
  - Organ dysfunction variables
    - Arterial hypoxemia ($\text{PaO}_2/\text{FiO}_2 < 300$)
    - Acute oliguria (urine output $< 0.5 \text{ mL/kg/hr}$ for at least 2 hrs despite adequate fluid resuscitation)
    - Creatinine increase $> 0.5 \text{ mg/dL}$ or $44.2 \text{ μmol/L}$
    - Coagulation abnormalities (INR $> 1.5$ or aPTT $> 60$ s)
    - Ileus (absent bowel sounds)
    - Thrombocytopenia (platelet count $< 100,000/\text{μL}$)
    - Hyperbilirubinemia (plasma total bilirubin $> 4 \text{ mg/dL}$ or $70 \text{ μmol/L}$)
  - Tissue perfusion variables
    - Decreased capillary refill or mottling

Specificity: **Septic Shock**

*The New England Journal of Medicine*

---

**Goal-Directed Resuscitation for Patients with Early Septic Shock**

The ARISE Investigators and the ANZICS Clinical Trials Group*

- **Septic shock**: sepsis complicated by either refractory hypotension *or* hypoperfusion.
  - **Refractory hypotension** was defined as a systolic blood pressure of <90 mm Hg or a mean arterial pressure of <65 mm Hg after an intravenous fluid challenge of 1000 ml or more administered within a 60-minute period.
  - **Hypoperfusion** was defined as a blood lactate level $\geq 4.0$ mmol/L.
  - Pallor, mottling, delayed capillary refill (particularly in pediatrics)

Urosepsis

- ICD-9-CM: Urosepsis codes to simple UTI
- ICD-10-CM: Urosepsis codes to nothing
  - Required language
    - “Sepsis due to pyelonephritis”
    - “Sepsis due to UTI”
Sepsis vs. SIRS
ICD-9-CM vs. ICD-10-CM

**ICD-9-CM**
Systemic inflammatory response syndrome (SIRS)
Infectious process (sepsis)
- w/o organ dysfunction
- with acute organ dysfunction (severe sepsis)
Non-infectious origin
- w/o organ dysfunction (CC)
- with acute organ dysfunction (MCC)

**ICD-10-CM**
Systemic inflammatory response syndrome (SIRS)
NO CODE FOR SIRS DUE TO INFECTION (aka sepsis) or SEPSIS SYNDROME
Non-infectious origin
- w/o organ dysfunction (CC)
- with acute organ dysfunction (MCC)

**PHYSICIAN MUST SAY “SEPSIS”, NOT “SIRS due to INFECTION”, TO GET “SEPSIS” IN ICD-10**
# Impact of Precision

## Heart failure as a Secondary Dx

<table>
<thead>
<tr>
<th>Documented Dx (Principal)</th>
<th>MS-DRG</th>
<th>MS-DRG Title</th>
<th>Relative Weight</th>
<th>Payment</th>
<th>GMLOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia without a specified organism</td>
<td>193</td>
<td>Simple pneumonia &amp; pleurisy w MCC</td>
<td>1.4491</td>
<td>$10,144</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>194</td>
<td>Simple pneumonia &amp; pleurisy w CC</td>
<td>0.9688</td>
<td>$6,782</td>
<td>3.8</td>
</tr>
<tr>
<td></td>
<td>195</td>
<td>Simple pneumonia &amp; pleurisy w/o CC/MCC</td>
<td>0.7044</td>
<td>$4,931</td>
<td>2.9</td>
</tr>
</tbody>
</table>

### Not a CC

- CHF or “history of CHF”
- Systolic or diastolic Dysfunction
- Heart failure with normal or reduced ejection fraction
- Decompensated CHF

### CC

- Systolic HF
- Diastolic HF
- Systolic/diastolic HF

### MCC

- Decompensated (or Acute)
  - Systolic HF
  - Diastolic HF
  - Systolic/diastolic HF

### Pneumonia with a specified organism

- Hypoxemia
- Hypercapnia

### Prolonged hypotension

- Shock, unspecified

### Hypoperfusion

- Acute (on chronic) respiratory failure

- Cardiogenic or hypovolemic shock
## CHF as a Secondary Diagnosis

### Heart Failure Documentation:

#### Acuity
- Acute
- Chronic
- Acute on chronic

#### Functionality
- Systolic
- Diastolic
- Combined systolic & diastolic

Other terms are clinically useful but cannot be coded for credit (they code to non-specific HF), e.g.
- NY Heart Association Classifications
- “HF with preserved ejection fraction”

### ICD-9 | MS-DRG | Title
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4280</td>
<td>CC</td>
<td>CHF NOS – DECOMPENSATED CHF RIGHT HEART FAILURE NOS</td>
</tr>
<tr>
<td>4281</td>
<td>CC</td>
<td>LEFT HEART FAILURE</td>
</tr>
<tr>
<td>42820</td>
<td>CC</td>
<td>SYSTOLIC HRT FAILURE NOS</td>
</tr>
<tr>
<td>42821</td>
<td>MCC</td>
<td>ACUTE SYSTOLIC HRT FAILURE</td>
</tr>
<tr>
<td>42822</td>
<td>CC</td>
<td>CHR SYSTOLIC HRT FAILURE</td>
</tr>
<tr>
<td>42823</td>
<td>MCC</td>
<td>ACUTE ON CHR SYSTOLIC HRT FAIL</td>
</tr>
<tr>
<td>42830</td>
<td>CC</td>
<td>DIASTOLIC HRT FAILURE NOS</td>
</tr>
<tr>
<td>42831</td>
<td>MCC</td>
<td>ACUTE DIASTOLIC HRT FAILURE</td>
</tr>
<tr>
<td>42832</td>
<td>CC</td>
<td>CHR DIASTOLIC HRT FAIL</td>
</tr>
<tr>
<td>42833</td>
<td>MCC</td>
<td>ACUTE ON CHR DIASTOLIC HRT FAIL</td>
</tr>
<tr>
<td>42840</td>
<td>CC</td>
<td>SYST/DIASTOLIC HRT FAIL NOS</td>
</tr>
<tr>
<td>42841</td>
<td>MCC</td>
<td>ACUTE SYST/DIASTOLIC HRT FAIL</td>
</tr>
<tr>
<td>42842</td>
<td>CC</td>
<td>CHR SYST/DIASTOLIC HRT FAIL</td>
</tr>
<tr>
<td>42843</td>
<td>MCC</td>
<td>ACUTE ON CHR SYST/DIASTOLIC HRT FAIL</td>
</tr>
</tbody>
</table>

### Heart Failure Documentation:

- Systolic or diastolic CHF must be documented at least once in the medical record
  - OK to say CHF with systolic or diastolic dysfunction
  - SHF has EF < 40%
  - DHF has EF ≥ 40%
  - Heart failure with preserved systolic function is not diastolic heart failure
- Pericardial tamponade, RV infarction with hypotension, cor pulmonale, or cardiogenic shock do not have S/D CHF unless documented
## Conditions, Details, & Interdependencies

**M** Manifestation
- Presenting signs, symptoms, syndromes
  - e.g., sepsis, heart failure, chest pain, angina

**U** Underlying Cause
- e.g., UTI, alcoholic cardiomyopathy, GERD, coronary atherosclerosis

**S** Severity or Specificity
- e.g., severe sepsis, diabetes out of controlled, *acute* systolic or diastolic heart failure

**I** Instigating or precipitating causes
- Indwelling foley cath, NSAID use, carbon monoxide poisoning

**C** Consequences or complications
- Septic shock, diabetic neuropathy

When given a diagnosis, place it one of these categories and then look for the other four, linking them with terms such as “caused by,” “due to,” or “resulting in” whenever possible.

---

“Caused by,” “due to,” “resulting in”
Congestive Heart Failure MUSIC

M  Manifestation
- Edema, dyspnea, cyanosis, oliguria, pulmonary edema
- “Heart failure” is considered a “symptom” or a “syndrome”

U  Underlying Cause
- Cardiomyopathies, aortic or mitral insufficiency, pericardial effusions
- Pulmonary hypertension (e.g., cor pulmonale, acute pulmonary embolus)

S  Severity or Specificity
- Systolic, diastolic, or both
- Acute, chronic, or acute-on-chronic decompensation

I  Instigating or precipitating causes
- Rapid atrial fibrillation, acute myocardial infarction, endocarditis, thyrotoxicosis, anemia, accelerated or malignant hypertension, drug toxicities

C  Consequences or complications
- Acute respiratory failure, acute kidney injury, cardiogenic shock, venous hypertension, pleural effusions, stasis dermatitis or stasis skin ulcers
# Rules of Three

Documenting *all conditions*

## 1. Three mentions (to establish validity)

- 1) EP note & H&P
- 2) Progress note
- 3) Discharge summary

## 2. Three parts of speech

- 1) **Noun** (condition)
- 2) **Adjective** (*acuity*: acute/chronic; *linking* caused by, due to, resulting in; *progress*: improved, stable, worse, resolved, etc.)
- 3) **Verb** (what you are going to do)

## 3. Once on the problem list, always on the problem list

- 1) Preserve them for the discharge summary
- 2) Cite as new, a condition that begins after the inpatient order, or present on admission (POA) – obvious, if on EP note/H&P
- 3) Improved, deteriorated, stable, chronic, ruled out, resolved

---

*Many conditions resolve with intervention. Don’t forget them.*
ICD-9-CM Structure – Format

- Numeric or Alpha (E or V)
- Numeric
- Category
- Etiology, anatomic site, manifestation

Five digits. No room for expansion for new diagnoses, procedures.
ICD-10-CM Structure – Format

- Seven digits. Increased alpha as well as numeric capability.
- Enhanced room for expansion for new diagnoses, procedures.

Additional Characters
- Added code extensions (7th character) for obstetrics, injuries, and external causes of injury.
What Is CDI?
Clinical Documentation Integrity

• **Ultimate Goal:** Accurate and clinically congruent ICD-9-CM, ICD-10-CM/PCS and/or CPT codes
• **Definition:** Clinical documentation (and coding) integrity (CDI) is the *process and effort* that addresses these elements:
  - Legibility
  - Clarity
  - Consistency
  - Completeness
  - Precision
  - Resolution of conflicting statements
  - Ensuring reliability of documented conditions
• CDI is emphasized in the *ICD-10 Official Guidelines for Coding and Reporting*, which states:
  – A joint effort between the healthcare provider and the coder is essential to achieve complete and accurate documentation, code assignment, and reporting of diagnoses and procedures.
  – The importance of consistent, complete documentation in the medical record cannot be overemphasized. Without such documentation accurate coding cannot be achieved.
What Is CDI not?
Clinical Documentation Integrity

CDI is not:

• Up-coding
  – Up-coding is attributing to a patient a condition they do not have
  – Knowingly billing for services at a level of complexity higher than the service actually provided or documented in the file

• CDI is:
  – Understanding the rules, regulations, guidelines that have been prepared (largely by non-physicians), and mandated by law (HIPAA), that we must follow

• Deviation from the rules?
  – Abuse: practices that, either directly or indirectly, result in unnecessary costs to the Medicare Program – No intent to defraud.
  – Fraud: Knowingly submitting false statements or making misrepresentations of fact to obtain a federal health care payment for which no entitlement would otherwise exist – Intent to defraud.

Complementary Roles, Common Goals

Physician

CDI team

Coder
ICD-10 Coding Rules

• Coders cannot code from EKG, laboratory, X-ray or pathology reports
  — Even if interpreted by a board-certified cardiologist
  — Results must be documented as diagnoses in the PN

• Arrow up (↑) or down (↓) with labs cannot be interpreted as abnormal
  — Document: “hyponatremia”
    • ↓ Na of 120 meq/liter ≠ hyponatremia
  — Document: “anemia”
    • ↓ Hct ≠ Anemia

• Physicians must completely describe and document conditions as to be coded
Explaining Queries to MDs

• Potential to activate fears by misinterpreting the grounds for the query
  – Being wrong. Doctors are not allowed to be wrong.
  – Not knowing. Doctors are embarrassed to not know something.

• Tangential, indirect queries
  – “Why can’t the coder just ask a direct question?”
  – Coders are not allowed to use a term not already introduced in the record
    • Low sodium reported, but doctor didn’t use the term “hyponatremia.”
    • Neither can the coder: “What is the clinical significance of the low sodium?”
Queries

• Queries must be answered
  – The coder is looking for additional information that may clarify credit due the physician toward representing the patient’s severity and complexity of care
  – If the question is important enough to be asked, it is important enough to be answered.
    • Query response rate is expected to be 100%
    • If a query is judged insignificant or inappropriate, that feedback to CDI/coding is essential
ICD-10-CM

Acuity

Acute, chronic vs. acute on chronic systolic (or diastolic) heart failure

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I5020</td>
<td>Unspecified systolic (congestive) heart failure</td>
</tr>
<tr>
<td>I5022</td>
<td>Chronic systolic (congestive) heart failure</td>
</tr>
<tr>
<td>I5021</td>
<td>Acute systolic (congestive) heart failure</td>
</tr>
<tr>
<td>I5023</td>
<td>Acute on chronic systolic (congestive) heart failure</td>
</tr>
<tr>
<td>I509</td>
<td>Heart failure, unspecified (CHF)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J40</td>
<td>Bronchitis, not specified as acute or chronic</td>
</tr>
<tr>
<td>J410</td>
<td>Simple chronic bronchitis</td>
</tr>
<tr>
<td>J411</td>
<td>Mucopurulent chronic bronchitis</td>
</tr>
</tbody>
</table>

* Individual codes acute bronchitis: Mycoplasma pneumonia, Hemophilus influenza, streptococcus, coxsackievirus, parainfluenza virus, respiratory syncytial virus, respiratory syncytial virus, rhinovirus, echovirus, other specified organisms

SOI = severity of illness
ROM = risk of mortality
Note how ICD-10-CM combines *benign*, *malignant*, and *unspecified* HTN into one code, I10 – HTN

Clinicians must attend to the secondary consequences of HTN:

- -- CHF: hypertensive cardiomyopathy
- -- Hypertensive encephalopathy
- -- AKI / CKD
- -- Hypertensive retinopathy
### 2015 ICD-10 HCC, MS-DRG, and APR Tables

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>2014 HCC#</th>
<th>2014 CM RW</th>
<th>2014 IN RW</th>
<th>AHRQ PSI</th>
<th>MS-DRG MCC/CC</th>
<th>MS-DRG HAC</th>
<th>APR-DRG SOI</th>
<th>APR-DRG ROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>I271</td>
<td>Kyphoscoliotic heart disease</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>I272</td>
<td>Other secondary pulmonary hypertension</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I2781</td>
<td>Cor pulmonale (chronic)</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I2782</td>
<td>Chronic pulmonary embolism</td>
<td>107</td>
<td>0.410</td>
<td>0.301</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I2789</td>
<td>Other specified pulmonary heart diseases</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I279</td>
<td>Pulmonary heart disease, unspecified</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I280</td>
<td>Arteriovenous fistula of pulmonary vessels</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>I281</td>
<td>Aneurysm of pulmonary artery</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>I288</td>
<td>Other diseases of pulmonary vessels</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>I289</td>
<td>Disease of pulmonary vessels, unspecified</td>
<td>85</td>
<td>0.368</td>
<td>0.229</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>I300</td>
<td>Acute nonspecific idiopathic pericarditis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I301</td>
<td>Infective pericarditis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I308</td>
<td>Other forms of acute pericarditis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I309</td>
<td>Acute pericarditis, unspecified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I310</td>
<td>Chronic adhesive pericarditis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I311</td>
<td>Chronic constrictive pericarditis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

- Table available from the hospital’s coding department
Acute Respiratory Failure
ICD-10-CM: with Hypercapnia or Hypoxemia

Physicians must state that acute or chronic respiratory failure exists AND document hypoxia or hypercapnia exists to gain the additional specificity. Coders may not interpret abnormal blood gases or clinical circumstances.

Acute respiratory failure is inferred if the patient is in a life-threatening circumstance: MCC

Chronic respiratory failure is supported if on chronic oxygen or with chronic hypercapnia: CC
Acute **Hypoxemic** Respiratory Failure

- **Hypoxemic**
  - Classical definition: $pO_2 < 60$ mm Hg
  - Critical care definition: $pO_2$ divided by $F_iO_2 < 200–250$

**with**

Respiratory assistance or monitoring
- Mechanical ventilation
- BiPAP
- High-flow $O_2$
- Frequent monitoring, usually in the ICU or ER

- If not in acute respiratory distress or requiring acute monitoring or intervention, document as hypoxemia only

$pO_2 < 60$ corresponds to $O_2$ sat **consistently** $< 88%$
Acute Hypercapnic Respiratory Failure

Hypercapnic

- Classically defined as \( pCO_2 > 45/50 \)
  - *Coding Clinic* states \( > 50 \)
- \( pH \) value dependent upon chronicity and renal effects
  - *Coding Clinic* states \( pH < 7.33–7.35 \); however, this applies only to acute respiratory failure
  - If \( pH > 7.33–7.35 \), consider chronic respiratory failure
Acute Respiratory Failure

- Differentiating whether the patient has acute respiratory failure as the circumstance of admission, it is possible to sequence this as the principal diagnosis
- A target of retrospective reviewers
  - Physicians define conditions and establish thresholds between severities of illness

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG title</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>189</td>
<td>PULMONARY EDEMA &amp; RESPIRATORY FAILURE</td>
<td>1.2809</td>
</tr>
<tr>
<td>190</td>
<td>CHRONIC OBSTRUCTIVE PULMONARY DISEASE W MCC</td>
<td>1.1924</td>
</tr>
<tr>
<td>191</td>
<td>CHRONIC OBSTRUCTIVE PULMONARY DISEASE W CC</td>
<td>0.9735</td>
</tr>
<tr>
<td>192</td>
<td>CHRONIC OBSTRUCTIVE PULMONARY DISEASE W/O CC/MCC</td>
<td>0.7220</td>
</tr>
<tr>
<td>193</td>
<td>SIMPLE PNEUMONIA &amp; PLEURISY W MCC</td>
<td>1.4948</td>
</tr>
<tr>
<td>194</td>
<td>SIMPLE PNEUMONIA &amp; PLEURISY W CC</td>
<td>1.0026</td>
</tr>
<tr>
<td>195</td>
<td>SIMPLE PNEUMONIA &amp; PLEURISY W/O CC/MCC</td>
<td>0.7037</td>
</tr>
</tbody>
</table>

Principal Diagnosis

The condition established after study to be chiefly responsible for occasioning the (inpatient) admission to the hospital.
## MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC</th>
<th>CC</th>
<th>MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased weight)</td>
<td>(modest increased weight)</td>
<td>(major increased weight)</td>
</tr>
<tr>
<td>Oxygen dependency</td>
<td>Chronic respiratory failure</td>
<td>Acute on chronic respiratory failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>due to . . .</td>
</tr>
<tr>
<td>Respiratory insufficiency</td>
<td>Acute respiratory insufficiency</td>
<td>Acute respiratory failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>due to . . .</td>
</tr>
<tr>
<td>Hypoxemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypercapnia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory distress</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Disappearing Diagnoses?

- **Problem list management:**
  - Severe acuities of illness change with treatment (particularly in the ED)
  - EPs, do not forget them on your Dx list
  - Hospitalists, do not forget them on the H&P
  - Keep them on the Problem List as “resolved.”
## Asthma: Severities of Illness

<table>
<thead>
<tr>
<th>Component of Severity</th>
<th>Age (years)</th>
<th>Intermittent</th>
<th>Classification of Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mild</td>
</tr>
<tr>
<td>Symptoms</td>
<td>All</td>
<td>&lt;= 2 day/week</td>
<td>&gt; 2 days/week but not daily</td>
</tr>
<tr>
<td></td>
<td>0-4</td>
<td>0</td>
<td>1-2x/month</td>
</tr>
<tr>
<td></td>
<td>&gt;=5</td>
<td>&lt;= 2x/month</td>
<td>3-4x/month</td>
</tr>
<tr>
<td>Night Awakenings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SABA use for symptom control</td>
<td>All</td>
<td>&lt;=2 days/week</td>
<td>&gt; 2 days/week but not daily</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td></td>
<td>None</td>
<td>Minor limitation</td>
</tr>
<tr>
<td>Lung Function:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEV1 (predicted) or PEF (personal best)</td>
<td>&gt;=5</td>
<td>Normal FEV1</td>
<td>Normal FEV1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>between exacerbations</td>
<td>between exacerbations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;80%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>FEV1/FVC</td>
<td>5-11</td>
<td>&gt;85%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td></td>
<td>&gt;=12</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Exacerbations requiring oral corticosteroids</td>
<td>0-4</td>
<td>&lt;=1x/year</td>
<td>≥ 2x in 6 months or ≥ 4 wheezing episodes/year lasting &gt; 1 day</td>
</tr>
<tr>
<td></td>
<td>5-11</td>
<td></td>
<td>AND risk factors for persistent asthma</td>
</tr>
<tr>
<td></td>
<td>&gt;=12</td>
<td></td>
<td>≥ 2x/year</td>
</tr>
</tbody>
</table>

Source: UMichHS Asthma Quality Improvement Steering Committee
ICD-10 Codes: Additional Information

- **Intermittent Asthma:**
  - J45.20 - uncomplicated
  - J45.21 - with (acute) exacerbation
  - J45.22 - with status asthmaticus
- **Mild Persistent Asthma:**
  - J45.30 - uncomplicated
  - J45.31 - with (acute) exacerbation
  - J45.32 - with status asthmaticus
- **Moderate Persistent Asthma:**
  - J45.40 - uncomplicated
  - J45.41 - with (acute) exacerbation
  - J45.42 - with status asthmaticus
- **Severe Persistent Asthma:**
  - J45.50 - uncomplicated
  - J45.51 - with (acute) exacerbation
  - J45.52 - with status asthmaticus

ICD-9 493.90 – Asthma, unspecified
COPD Acuity

J44.0  Chronic obstructive pulmonary disease with acute lower respiratory infection  CC
   Use additional code to identify the infection

J44.1  Chronic obstructive pulmonary disease with (acute) exacerbation  CC
   Decompensated COPD
   Decompensated COPD with (acute) exacerbation
   Excludes2: chronic obstructive pulmonary disease [COPD] with acute bronchitis (J44.0)

J44.9  Chronic obstructive pulmonary disease, unspecified
   Chronic obstructive airway disease NOS
   Chronic obstructive lung disease NOS

Use additional code to identify:
   exposure to environmental tobacco smoke (Z77.22)
   history of tobacco use (Z87.891)
   occupational exposure to environmental tobacco smoke (Z57.31)
   tobacco dependence (F17.-)
   tobacco use (Z72.0)

Nicotine dependence, with withdrawal, is a CC in MS-DRGs
Why are you prescribing Chantix?

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>MS-DRG CC/MCC</th>
<th>APR-DRG SOI</th>
<th>APR-DRG ROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>F17210</td>
<td>Nicotine dependence, cigarettes, uncomplicated</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>F17211</td>
<td>Nicotine dependence, cigarettes, in remission</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>F17213</td>
<td>Nicotine dependence, cigarettes, with withdrawal</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>F17218</td>
<td>Nicotine dependence, cigarettes, with other nicotine-induced disorders</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>F17219</td>
<td>Nicotine dependence, cigarettes, with unspecified nicotine-induced disorders</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
3\textsuperscript{rd} Universal Definition of MI, 2012

Criteria for acute myocardial infarction

The term acute myocardial infarction (MI) should be used when there is evidence of myocardial necrosis in a clinical setting consistent with acute myocardial ischemia. Under these conditions any one of the following criteria meets the diagnosis for MI:

- Detection of a \textit{rise and/or fall of cardiac biomarker} values [preferably cardiac troponin (cTn)] with at least one value above the 99\textsuperscript{th} percentile upper reference limit (URL) and \textbf{at least one of the following}:
  - Symptoms of ischemia
  - New or presumed new significant ST-segment—T wave (ST—T) changes or new left bundle branch block (LBBB)
  - Development of pathological Q waves in the ECG
  - Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality
  - Identification of an intracoronary thrombus by angiography or autopsy

http://circ.ahajournals.org/content/early/2012/08/23/CIR.0b013e31826e1058.citation
Published online on August 24, 2012.
Localization of STEMI

**Emergency Physician**

- **Nature**
  - ST elevation (default) or
  - Non-ST elevation (not default)
- **Regional (by ECG)**
  - Anterior
  - Posterior
  - Inferior
  - Lateral

**Cardiologist**

- **Vessel Nature**
  - Native artery
  - Graft
- **Vessel involved**

“Acute inferior ST elevation MI”
Acute Myocardial Infarction

**ICD-10-CM**

- **Acute MI - HCC**
  - Acute or within *4 weeks (28 days) from onset*
- **Subsequent MI**
  - A new acute MI occurring *within four weeks (28 days)* of a previous acute MI
- **Old MI – NOT an HCC**
  - Previous MI over *four weeks (28 days)* from the current encounter
## Classification of MI

<table>
<thead>
<tr>
<th>ICD-10-CM</th>
<th>3rd Universal Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of MI</td>
<td>Types of MI</td>
</tr>
<tr>
<td>• STEMI/Non-STEMI</td>
<td>1  Spontaneous MI</td>
</tr>
<tr>
<td>• Region</td>
<td>2  MI due to an ischemic imbalance</td>
</tr>
<tr>
<td>• Anterior, posterior, inferior, lateral</td>
<td>3  MI resulting in death when biomarkers are not available</td>
</tr>
<tr>
<td>• Vascular anatomy</td>
<td>4a MI related to PCI</td>
</tr>
<tr>
<td>• LM, LAD, L circ, RCA</td>
<td>4b MI related to stent thrombosis</td>
</tr>
<tr>
<td>• Other artery of the anterior wall, of the inferior wall</td>
<td>5  MI related to CABG</td>
</tr>
</tbody>
</table>
# Troponin “Leak:” Ischemic or Not

## Table: Distinctions between Type 1 MI, Type 2 MI, and non-ischemic myonecrosis

### Type 1 MI
- Usually spontaneous in onset with associated ECG changes such as ST – segment depression or elevation;
- Patients often described ischemic chest discomfort or equivalent;
- Associated abnormal blood troponin levels tend to be higher than in type 2 MI, but this is not invariably the case;
- Absence of conditions leading to elevated myocardial oxygen consumption or decreased myocardial bloodflow;
- Plaque rupture, ulceration, fissuring, erosion, or dissection with complex plaque and coronary arterial thrombus often seen during coronary angiography.

### Type 2 MI
- **Usually associated with conditions that lead to elevated myocardial oxygen demand**, for example, tachycardia with a heart rate greater than 150 beats per minute for time, or decreased myocardial blood flow, for example, hypotension (BP < 90 mm HG) secondary to blood loss;
- ECG changes are often minimal, absent, or non-specific;
- Associated blood troponin levels often, but not always, minimally elevated;
- Ischemic chest discomfort or equivalent maybe absent;
- Angiography often it does not demonstrate plaque rupture with associated thrombus.

### Non-ischemic myocardial injury with necrosis
- Usually occurs in patients with critical illness, for example, sepsis or respiratory failure, or in patients with chronic conditions associated with low-grade ongoing myocardial injury, for example, severe heart failure or renal failure;
- ECG changes are often minimal, absent, or non-specific;
- Associated blood troponin levels often minimally elevated and usually without a rise or fall;
- Ischemic chest discomfort or equivalent usually absent;
- Angiography usually does not demonstrate plaque rupture with associated thrombus.

---

### Type 2 Myocardial Infarction

Injury related to oxygen supply/demand imbalance producing myocardial ischemia

- Tachy-/brady-dysrhythmia
- Aortic dissection or severe aortic valve disease
- Hypertrophic cardiomyopathy
- Cardiogenic, hypovolemic, or septic shock
- Severe respiratory failure
- Severe anemia
- Hypertension with or without LVH
- Coronary spasm
- Coronary embolism or vasculitis
- Coronary endothelial dysfunction without significant CAD

*Circulation*, published online August 24, 2012
Troponin Elevation ("leak")
*Not* (or likely *Not*) Related to Ischemia

- Cardiac contusion, surgery, ablation, defibrillator shocks
- Rhabdomyolysis with cardiac involvement
- Myocarditis
- Cardiotoxic agents, e.g., anthrocyclines, Herceptin
- Sepsis, severe sepsis (without septic shock) (*endotoxin*?)
- Acute pulmonary embolus (*right heart strain*?)
“Troponin Leak” and Heart Failure Mortality

If there is a **rise and fall** of troponins at the 99\(^{th}\) percentile URL in the setting of acutely decompensated systolic or diastolic HF, is it

- “Troponin leak,”
- Non-ischemic myocardial injury with necrosis, or
- Non-STEMI?

STEMI – Default

- Unspecified or “demand” MI = STEMI (default)
  - MD must say “NSTEMI” or other terms if the clinical circumstances warrant it
ICD-10-CM Index of Diseases

Index

• Hypertension, hypertensive (accelerated) (benign) (essential) (idiopathic) (malignant) (systemic) I10 – with . . .
  – Signs of end-organ disease
  – Situations (e.g., pregnancy, newborn, postoperative)
Hypertension

- ICD-10-CM classifies uncontrolled hypertension as well-controlled hypertension
  - ICD-9-CM had codes for accelerated and malignant hypertension
    - However, these terms have been replaced with hypertensive urgency, emergency, and crisis, all of which code to well-controlled hypertension
  - ICD-10-CM has NO categories for uncontrolled hypertension

Capture HTN consequences

Chronic kidney disease and its stage:
- Stage 4–5 is a CC
- Hypertensive cardiomyopathy (a CC)
- Hypertensive heart disease or LVE is NOT hypertensive cardiomyopathy unless documented
- Hypertensive encephalopathy
- Hypertensive acute renal failure
- Hypertensive acute systolic heart failure

"Caused by," "due to," "resulting in"
Clinical Criteria of Acute Kidney Injury

Section 2: AKI Definition

2.1.1: AKI is defined as any of the following (Not Graded):
- Increase in SCr by $\geq 0.3 \text{ mg/dl} (\geq 26.5 \text{ } \mu\text{mol/l})$ within 48 hours; or
- Increase in SCr to $\geq 1.5$ times baseline, which is known or presumed to have occurred within the prior 7 days; or
- Urine volume $< 0.5 \text{ ml/kg/h}$ for 6 hours.

2.1.2: AKI is staged for severity according to the following criteria (Table 2). (Not Graded)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Serum creatinine</th>
<th>Urine output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.5–1.9 times baseline OR $\geq 0.3 \text{ mg/dl} (\geq 26.5 \text{ } \mu\text{mol/l})$ increase</td>
<td>$&lt;0.5 \text{ ml/kg/h}$ for 6–12 hours</td>
</tr>
<tr>
<td>2</td>
<td>2.0–2.9 times baseline</td>
<td>$&lt;0.5 \text{ ml/kg/h}$ for $\geq 12$ hours</td>
</tr>
<tr>
<td>3</td>
<td>3.0 times baseline OR Increase in serum creatinine to $\geq 4.0 \text{ mg/dl} (\geq 353.6 \text{ } \mu\text{mol/l})$ OR Initiation of renal replacement therapy OR, in patients $&lt; 18$ years, decrease in eGFR to $&lt; 35 \text{ ml/min per 1.73 m}^2$</td>
<td>$&lt;0.3 \text{ ml/kg/h}$ for $\geq 24$ hours OR Anuria for $\geq 12$ hours</td>
</tr>
</tbody>
</table>

Published 2012
# Acute Renal Injury (Failure)

<table>
<thead>
<tr>
<th>ICD-9 Code</th>
<th>Description</th>
<th>MS DRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>584</td>
<td><strong>Acute kidney failure</strong></td>
<td>MCC</td>
</tr>
<tr>
<td>584.5</td>
<td>• With lesion of tubular necrosis (ATN)</td>
<td>MCC</td>
</tr>
<tr>
<td>584.6</td>
<td>• With lesion of renal cortical necrosis</td>
<td>MCC</td>
</tr>
<tr>
<td>584.7</td>
<td>• With lesion of renal medullary [papillary] necrosis</td>
<td>MCC</td>
</tr>
<tr>
<td>584.8</td>
<td>• With other specified pathological lesion in kidney</td>
<td>CC</td>
</tr>
<tr>
<td>584.9</td>
<td>• Acute kidney failure NOS</td>
<td>CC</td>
</tr>
</tbody>
</table>
Hospital-Acquired AKI Almost Always ATN

- Contrast causes direct tubular toxicity and medullary ischemia, leading to tubular necrosis
- Consider other nephrotoxins
- If AKI persists for more than 3 days after fluid repletion
  - Not always accomplished
Chronic Kidney Disease

<table>
<thead>
<tr>
<th>Term</th>
<th>E-GFR</th>
<th>Usual serum Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic renal insufficiency/failure NOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CKD Stage 1</td>
<td>&gt; 90</td>
<td>&lt; 0.9</td>
</tr>
<tr>
<td>CKD Stage 2</td>
<td>60–89</td>
<td>1.0–1.3</td>
</tr>
<tr>
<td>CKD Stage 3</td>
<td>30–59</td>
<td>1.4–2.5</td>
</tr>
<tr>
<td>CKD Stage 4</td>
<td>15–29</td>
<td>2.5–4.5</td>
</tr>
<tr>
<td>CKD Stage 5</td>
<td>&lt; 15</td>
<td>&gt; 4.5</td>
</tr>
<tr>
<td>ESRD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Administrative term – irreversible renal disease requiring dialysis or transplant</td>
</tr>
</tbody>
</table>

* Serum Cr for a 170 lb white male, age 65
# Altered Mental Status MUSIC

<table>
<thead>
<tr>
<th>M</th>
<th>Manifestation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dementia, delirium, psychosis, stupor, coma</td>
</tr>
<tr>
<td></td>
<td>Unresponsive does not have a code</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U</th>
<th>Underlying Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Various encephalopathies – other structural diseases of the brain</td>
</tr>
<tr>
<td></td>
<td>Stroke, TIA, Alzheimer’s disease, Lewy-body dementia, encephalitis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S</th>
<th>Severity or Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlates with the severity of the manifestation</td>
</tr>
<tr>
<td></td>
<td>Acute or chronic (acute delirium is a CC; delirium NOS is not)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I</th>
<th>Instigating or precipitating causes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drug toxicity (declare if it is an overdose or if not properly taken)</td>
</tr>
<tr>
<td></td>
<td>Cerebral embolus due to atrial fibrillation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th>Consequences or complications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute respiratory failure</td>
</tr>
<tr>
<td></td>
<td>SIADH leading to hyponatremia resulting in a metabolic encephalopathy</td>
</tr>
</tbody>
</table>

When given a diagnosis, place it one of these categories and then look for the other four, linking them with terms such as “caused by,” “due to,” “resulting in”
Altered Mental Status (AMS)  
Need for Additional Specificity

• **Delirium (CC)**
  – Misperceptions of sensory stimuli and, often, visual hallucinations
  – DSM-IV
    • Disturbance of consciousness with reduced ability to focus, sustain, or shift attention
    • A change in cognition that is not due to an established or evolving dementia
  – Disoriented first to time, then to place, and then to person

• **Psychosis (CC)**
  – Loss from reality – delusions, hallucinations

• **Somnolence**
  – Equivalent to drowsiness

• **Stupor**
  – Deep sleep or similar unresponsiveness

• **Coma (equal to unconscious) (MCC)**
  – State of unresponsiveness in which the patient lies with eyes closed and cannot be aroused, even with vigorous stimulation

• **Toxic/Metabolic encephalopathy (MCC)**
  **Note:** Obtundation, meaning mental blunting or a mild or moderation reduction in alertness, or “unresponsive” do not have codes in ICD-10. Query is required.

• **Clouded state (codes as stupor unless associated with epilepsy)**
  – Minimally reduced wakefulness or awareness
  – May include hyperexcitability alternating with drowsiness

**When present, ICD-10 requires delirium and psychosis to be documented as acute or subacute to be coded as such**

Delirium and Encephalopathy

• Delirium is a manifestation
• Encephalopathy is an underlying cause
  – Delirium does not equal encephalopathy
  – Encephalopathy does not equal delirium

“Delirium due encephalopathy of . . .”

MUSIC: “caused by,” “due to,” “resulting in”
Encephalopathy

- No uniform definition of encephalopathy
  - Dorland’s – any degenerative disorder of the brain.
  - *Coding Clinic* (not official for a definition) – toxic or metabolic encephalopathy denoting delirium that always has an underlying cause, such as brain tumors, brain metastasis, cerebral infarction or hemorrhage, cerebral ischemia, uremia, poisoning, systemic infection, or other illnesses.
  - NIH – *any diffuse disease of the brain that alters brain function or structure*. Encephalopathy may be caused by infectious agent (*bacteria, virus, or prion*), metabolic or mitochondrial dysfunction, brain tumor or increased pressure in the skull, prolonged exposure to toxic elements (*including solvents, drugs, radiation, paints, industrial chemicals, and certain metals*), chronic progressive trauma, poor nutrition, or lack of oxygen or blood flow to the brain. The hallmark of encephalopathy is an altered mental state.

*Coding Clinic*, 4th Quarter 1993; 4th Quarter 2003
Toxic/Metabolic Encephalopathies
Definitions

• Toxic and metabolic encephalopathies are a group of neurological disorders characterized by an altered mental status
  – A delirium, defined as a disturbance of consciousness characterized by a reduced ability to focus, sustain, or shift attention that
  – Cannot be accounted for by preexisting or evolving dementia and that is caused by the direct physiological consequences of a general medical condition.
  – Fluctuation of the signs and symptoms of the delirium over relatively short time periods is typical.

<table>
<thead>
<tr>
<th>Description</th>
<th>HCC</th>
<th>MS-DRG CC/MCC</th>
<th>APR-DRG SOI</th>
<th>APR-DRG ROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic/Metabolic Encephalopathies</td>
<td>No relative weight</td>
<td>MCC</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Encephalopathy
Multiple Options in ICD-10-CM

**Encephalopathy (acute)** G93.40
- acute necrotizing hemorrhagic G04.30
- postimmunization G04.32
- postinfectious G04.31
- specific NEC G04.39
- alcoholic G31.2
- anoxic — see Damage, brain, anoxic
- arteriosclerotic I67.2
- centrolobar progressive (Schilder) G37.0
- congenital Q07.9
- degenerative, in specified disease NEC G32.89
- demyelinating callosal G37.1
- due to
  - drugs (see also Table of Drugs and Chemicals) G92
  - hepatic — see Failure, hepatic
  - hyperbiliurbinic, newborn P57.9
  - due to isoimmunization (conditions in P55) P57.0
  - hypertensive I67.4
  - hypoglycemic E16.2
  - hypoxic — see Damage, brain, anoxic
  - hypoxic ischemic P91.60
  - mild P91.61
  - moderate P91.62
  - severe P91.63
- in (due to) (with)
  - birth injury P11.1
  - hyperinsulinism E16.1 [G94]
  - influenza — see Influenza, with, encephalopathy
  - lack of vitamin (see also Deficiency, vitamin) E56.9 [G32.89]
  - neoplastic disease (see also Neoplasm) D49.9 [G13.1]
  - serum (see also Reaction, serum) T80.69
  - syphilis A52.17
  - trauma (postconcussional) F07.81
  - current injury — see Injury, intracranial
  - vaccination G04.02
  - lead — see Poisoning, lead
  - metabolic G93.41
  - drug induced G92
  - toxic G92
- myoclonic, early, symptomatic — see Epilepsy, generalized, specified NEC
- necrotizing, subacute (Leigh) G31.82
- pellagrous E52 [G32.89]
- portosystemic — see Failure, hepatic
- postcontusional F07.81
- current injury — see Injury, intracranial, diffuse
- posthypoglycemic (coma) E16.1 [G94]
- postradiation G93.89
- saturnine — see Poisoning, lead
- septic G93.41
- specified NEC G93.49
- spongioform, subacute (viral) A81.09
- toxic G92
- traumatic (postconcussional) F07.81
- current injury — see Injury, intracranial
- vitamin B deficiency NEC E53.9 [G32.89]
- vitamin B1 E51.2
- Wernicke's E51.2

Encephalopathy by itself must be queried for specificity
Red = MCC
Glasgow Coma Scale

- Glasgow Coma Scale (GCS) now has ICD-10 codes
  - Can be coded from non-physician documentation
    - For example – EMTs, RNs
  - Can be used in all circumstances – trauma, medical diagnoses, etc.
  - Must document each component score, not just the GCS total

<table>
<thead>
<tr>
<th>Score</th>
<th>Eye opening</th>
<th>Verbal response</th>
<th>Motor response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>To pain</td>
<td>Vocal but not verbal</td>
<td>Extension</td>
</tr>
<tr>
<td>3</td>
<td>To voice</td>
<td>Verbal but not conversational</td>
<td>Flexion</td>
</tr>
<tr>
<td>4</td>
<td>Spontaneous</td>
<td>Conversational but disoriented</td>
<td>Withdraws from pain</td>
</tr>
<tr>
<td>5</td>
<td>—</td>
<td>Oriented</td>
<td>Localizes pain</td>
</tr>
<tr>
<td>6</td>
<td>—</td>
<td>—</td>
<td>Obey commands</td>
</tr>
</tbody>
</table>

- Published in 1974 by professors of NSG at the Glasgow (Scotland) Institute of Neurological Sciences
Glasgow Coma Scale

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>Medicare &amp; others</th>
<th>Medi-Cal</th>
</tr>
</thead>
<tbody>
<tr>
<td>R402110</td>
<td>(1) Coma scale, eyes open, never</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402120</td>
<td>(2) Coma scale, eyes open, to pain</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402130</td>
<td>(3) Coma scale, eyes open, to sound</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R402140</td>
<td>(4) Coma scale, eyes open, spontaneous</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R402210</td>
<td>(1) Coma scale, best verbal response, none</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402220</td>
<td>(2) Coma scale, best verbal resp, incomprehensible words</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402230</td>
<td>(3) Coma scale, best verbal response, inappropriate words</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402240</td>
<td>(4) Coma scale, best verbal response, confused conversation</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R402250</td>
<td>(5) Coma scale, best verbal response, oriented</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R402310</td>
<td>(1) Coma scale, best motor response, none</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402320</td>
<td>(2) Coma scale, best motor response, extension</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402330</td>
<td>(3) Coma scale, best motor response, abnormal</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R402340</td>
<td>(4) Coma scale, best motor response, flexion withdrawal</td>
<td>MCC</td>
<td>3</td>
</tr>
<tr>
<td>R402350</td>
<td>(5) Coma scale, best motor response, localizes pain</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R402360</td>
<td>(6) Coma scale, best motor response, obeys commands</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R40241</td>
<td>Glasgow coma scale score 13-15</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R40242</td>
<td>Glasgow coma scale score 9-12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R40243</td>
<td>Glasgow coma scale score 3-8</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

- When using only the final GCS tally, your patient’s severity of illness is not credited
• “TIA” – brief cerebral, spinal, or retinal ischemia without acute infarction – no time limit (e.g., 1 hour or 24 hour) in definition
  – Cerebral embolus or thrombus WITHOUT INFARCTION are usual underlying causes
• “Stroke” – neurological symptoms with evidence of stroke on neuroimaging
• “Aborted stroke” – “stroke in evolution” – transient neurologic symptoms due to ischemia with a normal MRI
  • Therapeutic efforts (e.g., tPA) may play a role
  • “Aborted stroke,” “stroke in evolution,” & “RIND” coded as strokes
Reason for Elimination of 24-Hour Rule for TIA

2280 Stroke June 2009

Table 3. Frequency of DWI Abnormality in Patients With Transient Neurological Episodes of Different Durations: Pooled Data From 10 MRI Studies Enrolling 818 Patients

<table>
<thead>
<tr>
<th>Duration of Symptoms, h</th>
<th>DWI Hyperintensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>33.6</td>
</tr>
<tr>
<td>1–2</td>
<td>29.5</td>
</tr>
<tr>
<td>2–3</td>
<td>39.5</td>
</tr>
<tr>
<td>3–6</td>
<td>30.0</td>
</tr>
<tr>
<td>6–12</td>
<td>51.1</td>
</tr>
<tr>
<td>12–18</td>
<td>50.0</td>
</tr>
<tr>
<td>18–24</td>
<td>49.5</td>
</tr>
</tbody>
</table>
Stroke Specificity in ICD-10

• **Vessel involvement**
  - Carotid – right or left
  - Cerebral – right of left
    - Anterior
    - Middle
    - Posterior
  - Vertebral – right of left
  - Basilar

• **Mechanism**
  - Embolus
  - Thrombus

• **Consequences**
  - Weakness ≠ monoparesis or hemiparesis unless specified as due to stroke
    - Right of left
    - Dominant (default) or non-dominant side
  - Aphasias
  - Dysarthrias
  - Dysphagias
  - Dementia

“Caused by,” “due to,” “resulting in”
t-PA Administration

• TIA or impending stroke with tPA groups
  – MS-DRG 69 – transient ischemia – RW 0.7311 ONLY!
    • This diagnosis does not group to MS-DRG 061–063
• Stroke in evolution on admission and aborted stroke on discharge code to stroke, grouping as follows:

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG title</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>061</td>
<td>ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/ MCC</td>
<td>2.9568</td>
</tr>
<tr>
<td>062</td>
<td>ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/ CC</td>
<td>1.9479</td>
</tr>
<tr>
<td>063</td>
<td>ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/O CC/MCC</td>
<td>1.5251</td>
</tr>
</tbody>
</table>
Cerebral Edema – MCC
Cerebral Herniation or Compression – MCC

• Neither clinically significant edema nor herniation are integral to strokes. When present (and documented), each may be coded additionally.
• “Midline shift” has no code, no credit: Midline-shift
<table>
<thead>
<tr>
<th>Description</th>
<th>MS DRG CC/MCC</th>
<th>APR DRG SOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intracerebral hemorrhage</td>
<td>MCC</td>
<td>4</td>
</tr>
<tr>
<td>Cerebral herniation</td>
<td>MCC</td>
<td>4</td>
</tr>
<tr>
<td>Coma</td>
<td>MCC</td>
<td>4</td>
</tr>
<tr>
<td>Acute respiratory failure</td>
<td>MCC</td>
<td>4</td>
</tr>
<tr>
<td>Cerebral edema</td>
<td>MCC</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>MS DRG CC/MCC</th>
<th>APR DRG SOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIADH</td>
<td>CC</td>
<td>3</td>
</tr>
<tr>
<td>Hemiparesis (“weakness” now codable)</td>
<td>CC</td>
<td>2</td>
</tr>
<tr>
<td>Aphasia</td>
<td>CC</td>
<td>2</td>
</tr>
</tbody>
</table>
### Other CC/MCCs

<table>
<thead>
<tr>
<th>CCs</th>
<th>MCCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• TIAs</td>
<td>• Cerebral infarction</td>
</tr>
<tr>
<td>• Reflex sympathetic dystrophy</td>
<td>• Quadriplegia</td>
</tr>
<tr>
<td>• Transverse myelitis</td>
<td>• Encephalopathy</td>
</tr>
<tr>
<td>• Normal-pressure hydrocephalus</td>
<td>– Metabolic encephalopathy</td>
</tr>
<tr>
<td>• Communicating hydrocephalus</td>
<td>– Toxic encephalopathy</td>
</tr>
<tr>
<td>• Secondary Parkinsonism</td>
<td>– Unspecified</td>
</tr>
<tr>
<td>• Autonomic neuropathies</td>
<td>• Compression of brain</td>
</tr>
<tr>
<td>• Hemiparesis as a late effect of stroke</td>
<td>• Cerebral edema</td>
</tr>
<tr>
<td>• Toxic myopathies</td>
<td>• Myasthenia gravis with (acute) exacerbation</td>
</tr>
<tr>
<td></td>
<td>• Meningitis</td>
</tr>
</tbody>
</table>
# MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC</th>
<th>CC</th>
<th>MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased weight)</td>
<td>(modest increased weight)</td>
<td>(major increased weight)</td>
</tr>
<tr>
<td>Right sided weakness; Monoparesis</td>
<td>Hemiparesis; Weakness <em>due to</em> stroke</td>
<td></td>
</tr>
<tr>
<td>Brain stem stroke syndrome</td>
<td>TIA; MCA stroke syndrome</td>
<td>Stroke</td>
</tr>
<tr>
<td>Midline shift</td>
<td></td>
<td>Cerebral herniation; Cerebral edema</td>
</tr>
</tbody>
</table>
### MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC (no increased weight)</th>
<th>CC (modest increased weight)</th>
<th>MCC (major increased weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorly controlled seizures</td>
<td>Poorly controlled seizure disorder</td>
<td>Generalized status epilepticus</td>
</tr>
<tr>
<td>Peripheral neuropathy</td>
<td>Autonomic peripheral neuropathy</td>
<td></td>
</tr>
</tbody>
</table>
Complete Immobility due to Frailty
“Functional Quadriplegia”

• Also known as “complete immobility due to frailty or severe physical disability”

• The *ICD-10-CM* Official Guidelines
  – Functional quadriplegia (code R53.2) is the lack of ability to use one’s limbs *or* to ambulate due to extreme debility. It is not associated with neurologic deficit or injury, and code R53.2 should not be used for cases of neurologic quadriplegia. It should only be assigned if functional quadriplegia is specifically documented in the medical record.

• CDIMD interpretation: the condition needs to be permanent
Complete Immobility due to Frailty “Functional Quadriplegia”

- ICD-9-CM Code – 780.72
- ICD-10-CM Code – R53.2
  - Equivalent term: Complete immobility due to frailty or a defined physical condition
- The ICD-10-CM Official Guidelines
  - (The only definition of this term on the planet)
  - Not listed on PubMed.Gov
  - Functional quadriplegia is the lack of ability to use one’s limbs or to ambulate due to extreme debility.
  - It is not associated with neurologic quadriplegia or injury, and code R53.2 should not be used for cases of neurologic quadriplegia.

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>HCC RW</th>
<th>MS-DRG CC/MCC</th>
<th>APR-DRG SOI</th>
<th>APR-DRG ROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>R532</td>
<td>Functional Quadriplegia</td>
<td>1.234</td>
<td>MCC</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
Functional Quadriplegia
vs. “Bedridden” or “Immobility”

<table>
<thead>
<tr>
<th>DRG</th>
<th>Description</th>
<th>RW</th>
<th>Reimb</th>
<th>G LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>486</td>
<td>Simple Pneumonia w/o CC/MCC</td>
<td>0.7044</td>
<td>$6020.22</td>
<td>2.9</td>
</tr>
<tr>
<td>193</td>
<td>Simple Pneumonia w/ MCC • (Functional quadriplegia is the MCC)</td>
<td>1.4491</td>
<td>$11201.12</td>
<td>4.9</td>
</tr>
</tbody>
</table>

In the setting of simple pneumonia:
• “Bedridden,” “deconditioning,” “immobility” (alone) add no relative weight
  • “Immobility syndrome” is not equivalent
• “Functional quadriplegia” or “complete immobility due to frailty”
  • Doubles the relative weight
  • Almost doubles the reimbursement
  • Adds two days to the length of stay (69% increase)
  • Must be explicitly documented (coders cannot assume)
# Functional Quadriplegia

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>HCC RW</th>
<th>MS-DRG CC/MCC</th>
<th>APR-DRG SOI</th>
<th>APR-DRG ROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>I2101</td>
<td>ST elevation (STEMI) myocardial infarction involving left main coronary artery</td>
<td>0.275</td>
<td>MCC</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>I63312</td>
<td>Cerebral infarction due to thrombosis of left middle cerebral artery</td>
<td>0.317</td>
<td>MCC</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>S3282XB</td>
<td>Multiple fractures of pelvis without disruption of pelvic ring, initial encounter for open fracture</td>
<td>0.446</td>
<td>MCC</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>R532</td>
<td>Functional Quadriplegia</td>
<td>1.234</td>
<td>MCC</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
## Diabetes Mellitus Descriptors

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E10.-</td>
<td>Type 1 diabetes mellitus</td>
</tr>
<tr>
<td>E11.-</td>
<td>Type 2 diabetes mellitus</td>
</tr>
<tr>
<td>E09.-</td>
<td>Drug or chemical induced diabetes mellitus</td>
</tr>
<tr>
<td>O24.4-</td>
<td>Gestational diabetes</td>
</tr>
<tr>
<td>P70.2</td>
<td>Neonatal diabetes mellitus</td>
</tr>
<tr>
<td>E13.-</td>
<td>Postpancreatectomy diabetes mellitus</td>
</tr>
<tr>
<td>E13.-</td>
<td>Postprocedural diabetes mellitus</td>
</tr>
<tr>
<td>E13.-</td>
<td>Secondary diabetes mellitus NEC</td>
</tr>
<tr>
<td>E08-</td>
<td>Diabetes Mellitus due to Underlying Condition</td>
</tr>
<tr>
<td></td>
<td>• Details on next slide</td>
</tr>
</tbody>
</table>

“Caused by,” “due to,” “resulting in”
### Diabetes Mellitus due to Underlying Condition

<table>
<thead>
<tr>
<th>Code</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>P35.0</td>
<td>Congenital rubella</td>
</tr>
<tr>
<td>E24.-</td>
<td>Cushing's syndrome</td>
</tr>
<tr>
<td>E84.-</td>
<td>Cystic fibrosis</td>
</tr>
<tr>
<td>C00-C96</td>
<td>Malignant neoplasm</td>
</tr>
<tr>
<td>E40-E46</td>
<td>Malnutrition</td>
</tr>
<tr>
<td>K85-K86.-</td>
<td>Pancreatitis and other diseases of the pancreas</td>
</tr>
</tbody>
</table>

**Additional ICD-10-CM code for use of insulin**

“Caused by,” “due to,” “resulting in”
ICD-10 Change: Diabetes

• Diabetes
  – The term “uncontrolled” alone is no longer adequate
    • Physicians must note whether the lack of control is
      – Hyperglycemia
      – Hypoglycemia
  – “Out of control,” “inadequately,” or “poorly controlled” always codes to DM, by type, with hyperglycemia
  – Even if your patient has recurrent hypoglycemia, control qualifiers code to hyperglycemia (unless you state “hypoglycemia”)
    – Specificity:
      • diabetic ketoacidosis:
        – high anion gap metabolic acidosis
      • hyperosmolar non-ketotic diabetic state:
        – BS > 800, usually with profound hypovolemia
ICD-10 Changes: Diabetes

• **Type** (I or II)
• **Hyperglycemia** or **hypoglycemia**
• **Chronic Complications** *(link to diabetes)*
  • Coding is always: with or without complications
    – Diabetic retinopathy, with or without macular edema
    – Diabetic cataract, or other ophthalmologic complication
    – Diabetic nephropathy, renal disease
    – Diabetic peripheral neuropathy, mono- or polyneuropathy
    – Diabetic autonomic neuropathy
    – Diabetic amyotrophy
    – Diabetic peripheral angiopathy, with or without gangrene
    – Diabetic neuropathic arthropathy
    – Diabetic dermatitis
    – Diabetic foot ulcer
    – Diabetic skin ulcer, or other skin complication
    – Diabetic periodontal disease

“Caused by,” “due to,” “resulting in”
Pressure Sores

Stage 1: Non-blanching erythema
Stage 2: Exposed fat
Stage 3: Muscle necrosis
Stage 4: Bone necrosis
New in ICD-10-CM
Chronic Non-Pressure Ulcer Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L97111</td>
<td>Non-pressure chronic ulcer of right thigh limited to breakdown of skin</td>
</tr>
<tr>
<td>L97112</td>
<td>Non-pressure chronic ulcer of right thigh with fat layer exposed</td>
</tr>
<tr>
<td>L97113</td>
<td>Non-pressure chronic ulcer of right thigh with necrosis of muscle</td>
</tr>
<tr>
<td>L97114</td>
<td>Non-pressure chronic ulcer of right thigh with necrosis of bone</td>
</tr>
<tr>
<td>L97119</td>
<td>Non-pressure chronic ulcer of right thigh with unspecified severity</td>
</tr>
</tbody>
</table>

- Requires dynamic staging much like pressure ulcers
  - Different methodology
  - Note if present on admission
Gastrointestinal Hemorrhage

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG title</th>
<th>RW</th>
</tr>
</thead>
<tbody>
<tr>
<td>374</td>
<td>DIGESTIVE MALIGNANCY W MCC</td>
<td>2.0951</td>
</tr>
<tr>
<td>375</td>
<td>DIGESTIVE MALIGNANCY W CC</td>
<td>1.2851</td>
</tr>
<tr>
<td>376</td>
<td>DIGESTIVE MALIGNANCY W/O CC/MCC</td>
<td>0.8715</td>
</tr>
<tr>
<td>377</td>
<td>G.I. HEMORRHAGE W MCC</td>
<td>1.7640</td>
</tr>
<tr>
<td>378</td>
<td>G.I. HEMORRHAGE W CC</td>
<td>1.0238</td>
</tr>
<tr>
<td>379</td>
<td>G.I. HEMORRHAGE W/O CC/MCC</td>
<td>0.7067</td>
</tr>
<tr>
<td>811</td>
<td>RED BLOOD CELL DISORDERS W MCC</td>
<td>1.2182</td>
</tr>
<tr>
<td>812</td>
<td>RED BLOOD CELL DISORDERS W/O MCC</td>
<td>0.7920</td>
</tr>
</tbody>
</table>

**Key points**

- Designate the suspected underlying cause of any GI hemorrhage
  - “caused by,” “due to,” “resulting in”
- Capture any acute or chronic blood loss anemia
  - Acute blood loss anemia is a CC; chronic blood loss anemia is not
  - If the patient has chronic blood loss anemia as a presenting symptom, consider if anemia should be the principal diagnosis
  - The first H/H of a sudden acute bleed may be normal, and drop only after volume support. If the loss of red cell mass is significant PTA, note the acute blood loss anemia as present on admission.
Gastrointestinal Hemorrhage

Consequences of Bleeding

• “Occult Bleeding” vs. Hemorrhage

• **Acute Blood Loss Anemia**
  - > 20% drop in hematocrit
    - e.g., 40 to 32, 35 to 28
  - Fall in Hb of 2.0 g/dL
  - Transfusion of ≥ 2 U PRBCs
  - Absolute loss of RBC mass *before* volume replacement and dilution

  • **Applies in trauma as well**

• Hypovolemia leading to shock or acute kidney injury

• Vomiting with aspiration bronchitis or pneumonia
Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition)

Jane V. White, PhD, RD, FADA; Peggi Guenter, PhD, RN; Gordon Jensen, MD, PhD, FASPEN; Ainsley Malone, MS, RD, CNSC; Marsha Schofield, MS, RD; the Academy Malnutrition Work Group; the A.S.P.E.N. Malnutrition Task Force; and the A.S.P.E.N. Board of Directors

Source: http://www.tinyurl.com/2012ASPENmalnutrition
Adult Malnutrition: Circumstance Based

Nutrition Risk Identified
Compromised intake or loss of body mass.

Inflammation present? No / Yes

No

Starvation Related Malnutrition
(pure chronic starvation, anorexia nervosa)

Yes
Mild to Moderate Degree

Chronic Disease – Related Malnutrition
(organ failure, pancreatic cancer, rheumatoid arthritis, sarcopenic obesity)

Yes
Marked Inflammatory Response

Acute Disease or Injury-Related Malnutrition
(major infection, burns, trauma, closed head injury)

Malnutrition

• Because no single parameter is definitive for adult malnutrition, the identification of **2 or more** of the following 6 characteristics is recommended for diagnosis:

1. Insufficient **energy** intake
2. **Weight** loss
3. Loss of **muscle** mass
4. Loss of subcutaneous **fat**
5. Localized or generalized **fluid** accumulation
   - May sometimes mask weight loss
6. Diminished functional status as measured by **handgrip** strength
   - (lbs./inch²)

**Prealbumin** and **albumin** are no longer criteria for malnutrition
## MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC</th>
<th>CC</th>
<th>MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased weight)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal weight loss</td>
<td><strong>Mild</strong> malnutrition</td>
<td><strong>Severe</strong> malnutrition</td>
</tr>
<tr>
<td></td>
<td><strong>Moderate</strong> malnutrition</td>
<td></td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>Cachexia</td>
<td></td>
</tr>
<tr>
<td>Anorexia</td>
<td>Anorexia nervosa</td>
<td></td>
</tr>
<tr>
<td>Underweight</td>
<td>BMI (&lt; 19)</td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td>BMI (\geq 40)</td>
<td></td>
</tr>
<tr>
<td>Morbid obesity</td>
<td>Morbid obesity <strong>with alveolar hypoventilation</strong></td>
<td></td>
</tr>
<tr>
<td>due to excess calories</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Malnutrition Relative Weights

<table>
<thead>
<tr>
<th>Description</th>
<th>HCC #</th>
<th>HCC Comm RW</th>
<th>HCC Inst RW</th>
<th>MS-DRG CC/MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Severe</strong> protein– calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>MCC</td>
</tr>
<tr>
<td><strong>Moderate</strong> protein calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>CC</td>
</tr>
<tr>
<td><strong>Mild</strong> protein calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>CC</td>
</tr>
<tr>
<td>Unspecified protein-calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>CC</td>
</tr>
</tbody>
</table>

Comm = community patient  
Inst = institutionalized (e.g., nursing home)
# Framework for Progression of Payment to Clinicians and Organizations in Payment Reform

## Description

<table>
<thead>
<tr>
<th>Category 1: Fee-for-service—No link to quality</th>
<th>Category 2: Fee for service—Link to quality</th>
<th>Category 3: Alternative payment models built on fee for service architecture</th>
<th>Category 4: Population-based payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments based on the quality or efficiency of healthcare delivery</td>
<td>Some payment is linked to the effective management of the population or an episode of care</td>
<td>Payment is not directly triggered by service delivery; volume is not linked to payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk</td>
<td>Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g. &gt; 1 year)</td>
</tr>
</tbody>
</table>

## Examples

### Medicare

- **Category 1:**
  - Physician Value Based Modifier
  - Hospital Value Based Purchasing
  - Reduction programs for:
    - Readmissions
    - Hospital acquired conditions

- **Category 2:**
  - Accountable care organizations
  - Medical homes
  - Bundled payments

- **Category 3:**
  - Pioneer accountable care organization
  - Some Medicare Advantage or Medicaid plans

- **Category 4:**
  - Integrated care models under fee-for-service
  - Managed fee for Medicare–Medicaid beneficiaries
  - Medicaid health homes

### Medicaid

- **Category 1:**
  - Primary care case management
  - Some managed-care models

- **Category 2:**
  - Integrated care models under fee-for-service
  - Managed fee for Medicare–Medicaid beneficiaries
  - Medicaid health homes

- **Category 3:**
  - Some Medicare &/or Medicaid managed care plans

### ICD-9-CM and ICD-10-CM codes determine how payments are adjusted
Medicare Readmissions Penalties

- Conditions readmitted within 30 days of discharge
  - Heart failure
  - Myocardial infarction
  - Pneumonia
  
  This year they are adding:
  - Chronic lung problems
    - COPD
    - Chronic bronchitis
  - Elective joint replacement
    - Knee
    - Hip

- Penalties applies to all patients
- Maximum penalty is 3%
- CMS takes into account
  - the severity of illness
  - the age of the patient
  - the patient’s additional medical conditions (comorbidities)
Heart Failure Mortality/Readmission
PDx Cohort Inclusion Criteria

ICD-9-CM codes that define the patient cohort:
402.01  Hypertensive heart disease, malignant, with heart failure
402.11  Hypertensive heart disease, benign, with heart failure
402.91  Hypertensive heart disease, unspecified, with heart failure
404.01  Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified
404.03  Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease
404.11  Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified
404.13  Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease
404.91  Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified
404.93  Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease
428.xx  Heart failure codes

Excluded Populations:
The measure excludes admissions for patients:
• who were discharged on the day of admission or the following day and did not die or get transferred (because it is less likely they had a diagnosis of HF)
• with inconsistent or unknown mortality status or other unreliable data (e.g. date of death precedes admission date)
• who were transferred from another acute care hospital or VA hospital (because the death is attributed to the hospital where the patient was initially admitted)

Note that, as PDx, not included are:
• Acute respiratory failure
• Acute MI

Getting the Diagnosis right:
• Hospital no longer at risk for HF readmission or mortality penalties
• Physician quality & cost evaluations benefit from higher weighted correct diagnoses
Impact of “Troponin Leaks” on Heart Failure Mortality

“Troponin leak?” or NSTEMI

If there is a rise and fall of troponins at the 99th percentile URL in the setting of acutely decompensated systolic or diastolic HF, is it “troponin leak,” NSTEMI, or non-ischemic myocardial injury with necrosis?

CMS Hospital Compare
Pneumonia Mortality

Death rate for pneumonia patients

Why is this important?

Lower Percentages Are Better

137

Hawaii Hosp. 1

12.7%

12%

12%

10.7%

12%

12%

U.S. National Death rate for pneumonia patients = 12.0%
Pneumonia Mortality and Readmission Inclusion Criteria

ICD-9-CM codes that define the patient cohort:

480.0 Pneumonia due to adenovirus
480.1 Pneumonia due to respiratory syncytial virus
480.2 Pneumonia due to parainfluenza virus
480.3 Pneumonia due to SARS-associated coronavirus
480.8 Viral pneumonia: pneumonia due to other virus not elsewhere classified
480.9 Viral pneumonia unspecified
481 Pneumococcal pneumonia [streptococcus pneumoniae pneumonia]
482.0 Pneumonia due to klebsiella pneumoniae
482.1 Pneumonia due to pseudomonas
482.2 Pneumonia due to hemophilus influenzae [h. influenzae]
482.30 Pneumonia due to streptococcus unspecified
482.31 Pneumonia due to streptococcus group a
482.32 Pneumonia due to streptococcus group b
482.39 Pneumonia due to other streptococcus
482.40 Pneumonia due to staphylococcus unspecified
482.41 Pneumonia due to staphylococcus aureus
482.42 Methicillin resistant pneumonia due to staphylococcus aureus
482.49 Other staphylococcus pneumonia
482.81 Pneumonia due to anaerobes
482.82 Pneumonia due to escherichia coli [e coli]
482.83 Pneumonia due to other gram-negative bacteria
482.84 Pneumonia due to legionnaires’ disease
482.89 Pneumonia due to other specified bacteria
482.90 Bacterial pneumonia unspecified
483.0 Pneumonia due to mycoplasma pneumoniae
483.1 Pneumonia due to chlamydia
483.8 Pneumonia due to other specified organism
485 Bronchopneumonia organism unspecified
486 Pneumonia organism unspecified
487.0 Influenza with pneumonia
488.11 Influenza due to identified novel H1N1 influenza virus with pneumonia

Note that, as PDx, not included are:
- Aspiration pneumonia*
- Sepsis*
- Severe sepsis
- Acute respiratory failure
- AIDS

Getting the Diagnosis right:
- Hospital no longer at risk for pneumonia readmission or mortality penalties
- Physician quality & cost evaluations benefit from higher weighted diagnoses

*Removed by the 2016 IPPS Final Rule
## Readmission Penalties

<table>
<thead>
<tr>
<th>Hospital</th>
<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus Valley Hospital</td>
<td>0.03%</td>
<td>0.14%</td>
<td>0.25%</td>
</tr>
<tr>
<td>Pomona Valley Hospital Medical Center</td>
<td>0.06%</td>
<td>0.25%</td>
<td>0.41%</td>
</tr>
<tr>
<td>UCSF</td>
<td>0.10%</td>
<td>0.02%</td>
<td>0.23%</td>
</tr>
<tr>
<td>UCLA - Reagan</td>
<td>0.18%</td>
<td>0.19%</td>
<td>0.24%</td>
</tr>
<tr>
<td>USC - Keck</td>
<td>0.08%</td>
<td>0.06%</td>
<td>0.19%</td>
</tr>
<tr>
<td>UC San Diego Medical Center</td>
<td>0.21%</td>
<td>0.27%</td>
<td>0.21%</td>
</tr>
<tr>
<td>Good Samaritan, Los Angeles</td>
<td>0.67%</td>
<td>0.35%</td>
<td>0.39%</td>
</tr>
<tr>
<td>Brigham &amp; Women’s</td>
<td>0.55%</td>
<td>0.30%</td>
<td>0.27%</td>
</tr>
<tr>
<td>Pennsylvania Hospital (U Pa)</td>
<td>1.00%</td>
<td>0.35%</td>
<td>3.00%</td>
</tr>
<tr>
<td>Vanderbilt</td>
<td>0.61%</td>
<td>0.11%</td>
<td>0.10%</td>
</tr>
</tbody>
</table>
## Center for Medicare & Medicaid Services’ Game Plan

Framework for progression of payment to clinicians and organizations in payment reform

<table>
<thead>
<tr>
<th>Description</th>
<th>Category 1: Fee-for-service—No link to quality</th>
<th>Category 2: Fee for service—Link to quality</th>
<th>Category 3: Alternative payment models built on fee for service architecture</th>
<th>Category 4: Population-based payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments based on the quality or efficiency of healthcare delivery</td>
<td>Some payment is linked to the effective management of the population or an episode of care</td>
<td>Payment is not directly triggered by service delivery; volume is not linked to payment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk</td>
<td>Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g. &gt; 1 year)</td>
</tr>
<tr>
<td>Examples</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>Physician Value Based Modifier</td>
<td>Accountable care organizations</td>
<td>Pioneer accountable care organization</td>
<td>Some Medicare Advantage or Medicaid plans</td>
</tr>
<tr>
<td></td>
<td>Hospital Value Based Purchasing</td>
<td>Medical homes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduction programs for • Readmissions • Hospital acquired conditions</td>
<td>Bundled payments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>Primary care case management</td>
<td>Integrated care models under fee-for-service</td>
<td>Some Medicare &amp;/or Medicaid managed care plans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some managed-care models</td>
<td>Managed fee for Medicare–Medicaid beneficiaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicaid health homes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ICD-9-CM and ICD-10-CM codes determine how payments are adjusted.
The Present On Admission Indicator
What Is It?

- The Present On Admission (POA) indicator is a data element on the inpatient UB-04 (paper) or the ASC X12N 837, version 5010, (electronic) formats reporting if condition reported using ICD-9-CM was present at the time that the inpatient order was written.
CMS Hospital-Acquired Conditions

ICD-10 Diagnosis Code & POA Based

- **Stage III and IV pressure ulcers**
- **Catheter-associated** urinary tract infection (UTI)
- **Vascular catheter–associated** infection
- Manifestations of poor glycemic control
  - Diabetic ketoacidosis
  - Nonketotic hyperosmolar coma
  - Hypoglycemic coma
  - Secondary diabetes with ketoacidosis
  - Secondary diabetes with hyperosmolarity
- Falls and trauma
  - Fractures
  - Dislocations
  - Intracranial injuries
  - Crushing injuries
  - Burns
  - Other injuries
- Blood incompatibility

- Foreign object retained after surgery
- Surgical site infections
  - Mediastinitis, following CABG
  - After implantable cardiac electronic device (CIED)
  - After bariatric surgery for obesity
  - Laparoscopic gastric bypass
  - Gastroenterostomy
  - Laparoscopic gastric restrictive surgery
  - Certain orthopedic procedures:
    - Spine
    - Neck
    - Shoulder
    - Elbow
- DVT or PE after certain orthopedic procedures:
  - Total knee replacement
  - Hip replacement
- Iatrogenic pneumothorax w/venous catheterization
- Air embolism
# Present on Admission Response Options

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Y** | Diagnosis was present at time of IP admission  
(no penalty) |
| **W** | Clinically undetermined. Provider unable to clinically determine whether the condition was present at the time of inpatient admission  
• Interpreted for payment purposes as a “Yes” by CMS  
(no penalty) |
| **N** | Diagnosis was not present at time of IP admission  
(subject to penalty) |
| **U** | Unknown; **Documentation insufficient** to determine if condition was present at the time of IP admission  
• Interpreted for payment purposes as a “No” by CMS  
(subject to penalty) |

Coders: If the code is POA-exempt, the field is left blank

References:  
http://tinyurl.com/POAHCUP2011  
http://tinyurl.com/POAHCUP2006  
http://www.hcup-us.ahrq.gov/datainnovations/clinicaldata/poatoolkit.jsp
Conditions, Details, & Interdependencies

MUSIC

M  Manifestation
Presenting signs, symptoms, syndromes
e.g., sepsis, heart failure, chest pain, angina

U  Underlying Cause
e.g., UTI, alcoholic cardiomyopathy, GERD, coronary atherosclerosis

S  Severity or Specificity
e.g., severe sepsis, diabetes out of controlled, acute systolic or diastolic heart failure

I  Instigating or precipitating causes
Indwelling foley cath, NSAID use, carbon monoxide poisoning

C  Consequences or complications
Septic shock, diabetic neuropathy

When given a diagnosis, place it one of these categories and then look for the other four, linking them with terms such as “caused by,” “due to,” or “resulting in” whenever possible

One mnemonic = 70,000 codes
# Rules of Three

Documenting *all conditions*

<table>
<thead>
<tr>
<th>1. Three mentions (to establish validity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1) EP note &amp; H&amp;P</td>
</tr>
<tr>
<td>- 2) Progress note</td>
</tr>
<tr>
<td>- 3) Discharge summary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Three parts of speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1) <strong>Noun</strong> (condition)</td>
</tr>
<tr>
<td>- 2) <strong>Adjective</strong> <em>(acuity: acute/chronic; linking</em> caused by, due to, resulting in; <em>progress</em>: improved, stable, worse, resolved, etc.)*</td>
</tr>
<tr>
<td>- 3) <strong>Verb</strong> (what you are going to do)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Once on the problem list, always on the problem list</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1) Preserve them for the discharge summary</td>
</tr>
<tr>
<td>- 2) Cite as new, a condition that begins after the inpatient order, or present on admission (POA) – obvious, if on EP note/H&amp;P</td>
</tr>
<tr>
<td>- 3) Improved, deteriorated, stable, chronic, ruled out, resolved</td>
</tr>
</tbody>
</table>

Many conditions resolve with intervention. Don’t forget them.
Attribution of Credit

- **Lawyer:** “If it is not documented, you didn’t do it.”
- **Payer:** “If it is not documented, you didn’t diagnose it.”
- **CDI MD:** “If it is not documented, you cannot get credit for it.”

**NO DOCUMENTATION GAP** is the solution to:
- Eliminating medical necessity denials and down-coding by payers
- Accurate quality portrayal
- Accurate cost efficiency portrayal
- Coding specificity of ICD-10
Ancora Imparo

• Michelangelo, at age 87
  "Yet, I am learning"

“If people knew how hard I had to work to gain my mastery, it would not seem so wonderful at all.”
Appendix
CMS QUALITY & RESOURCE USE REPORT (QRUR)
CMS Quality & Resource Use Report (QRUR)

• On September 30, CMS made 2013 Quality and Resource Use Reports (QRURs) available to group practices and physician solo practitioners nationwide. These reports
  – Contain confidential information to physicians and other medical professionals about the resources used to treat their Medicare fee-for-service (FFS) patients, in comparison to peer groups of medical professionals in similar specialty areas of practice
  – Contain quality and cost performance data for CY 2013, which is the performance period for the Value-Based Payment Modifier (VBPM)
  – Include data assessing a group practice or solo practitioner’s performance on cost measures, information about the services and procedures contributing most to beneficiaries’ costs, as well as performance on quality measures including performance on three outcome measures
Twelve ambulatory care measures are as follows:

1. LDL Screening for Beneficiaries up to 75 Years of Age with Diabetes
2. Eye Exam (retinal) for Beneficiaries up to 75 Years of Age with Diabetes
3. HbA1c Testing for Beneficiaries up to 75 Years of Age with Diabetes
4. Medical Attention for Nephropathy for Diabetics up to 75 Years of Age
5. LDL-C Screening for Beneficiaries up to 75 Years of Age with Cardiovascular Conditions
6. β-Blocker Treatment after Heart Attack
7. Persistence of β-Blocker Treatment after Heart Attack
8. Colorectal Cancer Screening for Beneficiaries up to 80 Years of Age
9. Breast Cancer Screening for Women up to 69 Years of Age
10. Annual Monitoring for Beneficiaries on Persistent Medications (ACE inhibitors or Angiotensin Receptor Blockers, Digoxin, Diuretics, and Anti-Convulsants)
11. Antidepressant Medication Management (Acute Phase)
12. Disease-Modifying Anti-Rheumatic Drug Therapy in Rheumatoid Arthritis

Source: http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/downloads/2010_QRUR_FAQ.pdf
QRUR - Quality & Resource Use Report
How to Access Your Report

• Information about the quality and cost of care delivered https://portal.cms.gov

• An authorized representative of a group must obtain an IACS account (Individuals Authorized Access to the CMS Computer Services) with one of the following group-specific Physician Value-Physician Quality Reporting System (PV-PQRS) system roles:
  – PV-PQRS Group Security Official (primary or back-up)
  – PV-PQRS Group Representative

• A solo practitioner or an authorized representative of a solo practitioner must obtain an IACS account with one of the following individual-specific PV-PQRS System roles:
  – PV-PQRS Individual Practitioner
  – PV-PQRS Individual Practitioner Representative
Sample Quality Report

[link to portal.cms.gov]

### Exhibit 2. Physician Performance on PQRS Quality Measures for Patients Reported on in 2010

<table>
<thead>
<tr>
<th>Clinical Condition and PQRS Measure</th>
<th>Physician PQRS Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifications for PQRS clinical measures are posted at</td>
<td>Physicians in Iowa, Kansas, Missouri, and Nebraska Participating in PQRS</td>
</tr>
<tr>
<td><a href="http://www.cms.gov/PQRS/Downloads/2010_PQRI_MeasuresList_111309.pdf">link to specifications</a></td>
<td>Number of Your Medicare Patients for Whom This Service Was Indicated</td>
</tr>
<tr>
<td><a href="http://www.cms.gov/PQRI/downloads/2010PQRI_measuresGroups_SpecsManualAndReleaseNotes_121809_2.zip">link to additional resources</a></td>
<td>Percentage of Medicare Patients Who Received the Service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PQRS Measure Number</th>
<th>Chronic Obstructive Pulmonary Disease (COPD)</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>Spirometry Evaluation</td>
<td>Hemoglobin A1c Poor Control</td>
</tr>
<tr>
<td>52</td>
<td>Bronchodilator Therapy</td>
<td>Low-Density Lipoprotein Control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diabetic Condition</th>
<th>PQRS Measure Number</th>
<th>#</th>
<th>%</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>117</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CDIMD

PHYSICIAN CHAMPIONS
# Sample Cost Report

[portal.cms.gov](http://portal.cms.gov)

<table>
<thead>
<tr>
<th></th>
<th>TIN’s number of eligible cases (A)</th>
<th>TIN’s risk-adjusted per capita cost (B)</th>
<th>Benchmark (mean) (C)</th>
<th>Standard deviation (D)</th>
<th>Standardized score (E)</th>
<th>Included in domain score (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Per Capita Costs for All Attributed Beneficiaries</td>
<td>207</td>
<td>$17,795</td>
<td>$10,370</td>
<td>$1,864</td>
<td>3.98</td>
</tr>
<tr>
<td>2</td>
<td>Domain Score: Per Capita Costs for All Attributed Beneficiaries (from Row 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.98</td>
</tr>
<tr>
<td>3</td>
<td>Per Capita Costs for Attributed Beneficiaries with Diabetes</td>
<td>84</td>
<td>$28,153</td>
<td>$14,946</td>
<td>$2,848</td>
<td>4.64</td>
</tr>
<tr>
<td>4</td>
<td>Per Capita Costs for Attributed Beneficiaries with COPD</td>
<td>18</td>
<td>$26,240</td>
<td>$24,270</td>
<td>$4,934</td>
<td>0.40</td>
</tr>
<tr>
<td>5</td>
<td>Per Capita Costs for Attributed Beneficiaries with CAD</td>
<td>4</td>
<td>$22,140</td>
<td>$17,333</td>
<td>$3,384</td>
<td>1.42</td>
</tr>
<tr>
<td>6</td>
<td>Per Capita Costs for Attributed Beneficiaries with Heart Failure</td>
<td>54</td>
<td>$30,157</td>
<td>$26,190</td>
<td>$5,537</td>
<td>0.72</td>
</tr>
<tr>
<td>7</td>
<td>Domain Score: Per Capita Costs for Attributed Beneficiaries with Specific Conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.68</td>
</tr>
<tr>
<td>8</td>
<td>Average Domain Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.16</td>
</tr>
<tr>
<td>9</td>
<td>Standardized Cost Composite Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.16</td>
</tr>
<tr>
<td>10</td>
<td>Average Cost Domain Score Mean &amp; S.D. Across Peers (Use for TINs with 25–99 EPs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.33</td>
</tr>
<tr>
<td>11</td>
<td>Average Cost Domain Score Mean &amp; S.D. Across Peers (Use for TINs with 100+ EPs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.47*</td>
</tr>
</tbody>
</table>
## Framework for progression of payment to clinicians and organizations in payment reform

<table>
<thead>
<tr>
<th>Description</th>
<th>Category 1: Fee-for-service—No link to quality</th>
<th>Category 2: Fee for service—Link to quality</th>
<th>Category 3: Alternative payment models built on fee for service architecture</th>
<th>Category 4: Population-based payment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments based on the quality or efficiency of healthcare delivery</td>
<td>Some payment is linked to the effective management of the population or an episode of care</td>
<td>Payment is not directly triggered by service delivery; volume is not linked to payment</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td></td>
<td></td>
<td></td>
<td>Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g. &gt; 1 year)</td>
</tr>
<tr>
<td><strong>Medicare</strong></td>
<td>Physician Value Based Modifier</td>
<td>Accountable care organizations</td>
<td>Pioneer accountable care organization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hospital Value Based Purchasing</td>
<td></td>
<td></td>
<td>Some Medicare Advantage or Medicaid plans</td>
</tr>
<tr>
<td></td>
<td>Reduction programs for • Readmissions • Hospital acquired conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medicaid</strong></td>
<td>Primary care case management</td>
<td>Integrated care models under fee-for-service</td>
<td>Some Medicare &amp;/or Medicaid managed care plans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some managed-care models</td>
<td>Managed fee for Medicare—Medicaid beneficiaries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ICD-9-CM and ICD-10-CM codes determine how payments are adjusted**

**Medicare**
- Physician Value Based Modifier
- Hospital Value Based Purchasing
- Reduction programs for • Readmissions • Hospital acquired conditions

**Medicaid**
- Primary care case management
- Some managed-care models

**Medicaid**
- Integrated care models under fee-for-service
- Managed fee for Medicare—Medicaid beneficiaries
- Medicaid health homes
Bundled Payments for Care Improvement (BPCI) Initiative: General Information

On January 31, 2013, the Centers for Medicare & Medicaid Services (CMS) announced the health care organizations selected to participate in the Bundled Payments for Care Improvement initiative, an innovative new payment model. Under the Bundled Payments for Care Improvement initiative, organizations will enter into payment arrangements that include financial and performance accountability for episodes of care. These models may lead to higher quality, more coordinated care at a lower cost to Medicare.

Background

Traditionally, Medicare makes separate payments to providers for each of the individual services they furnish to beneficiaries for a single illness or course of treatment. This approach can result in fragmented care with minimal coordination across providers and health care settings. Payment rewards the quantity of services offered by providers rather than the quality of care furnished. Research has shown that bundled payments can align incentives for providers – hospitals, post-acute care providers, physicians, and other practitioners – allowing them to work closely together across all specialties and settings.

http://www.tinyurl.com/2013BPCI
http://medpac.gov/documents/reports/jun13_ch03.pdf
### Medicare Payments in a Bundled Payment Environment

<table>
<thead>
<tr>
<th>Unbundled (separate checks):</th>
<th>Bundled (one check)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Hospital</td>
<td>- Hospital, Accountable Care Organization, or other organization</td>
</tr>
<tr>
<td>- Emergency physician</td>
<td>- Distributed to participants according to a negotiated agreement</td>
</tr>
<tr>
<td>- Admitting physician</td>
<td>- ICD-10-CM codes govern the Diagnosis-Related Group (DRG) that determine the size of the pot from which funds are distributed</td>
</tr>
<tr>
<td>- Radiologist</td>
<td>- Also covers first 30 days of care post-discharge</td>
</tr>
<tr>
<td>- Surgeon</td>
<td>- Outpatient visits: MD, HHN</td>
</tr>
<tr>
<td>- Consultants ...</td>
<td>- Readmissions!!!</td>
</tr>
<tr>
<td>- Pathologist</td>
<td></td>
</tr>
<tr>
<td>- Home Health Service</td>
<td></td>
</tr>
</tbody>
</table>
Bundled Payments: Pneumonia

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG Title</th>
<th>Wgts</th>
<th>Bundle</th>
</tr>
</thead>
<tbody>
<tr>
<td>871</td>
<td>SEPTICEMIA OR SEVERE SEPSIS W/O MV 96+ HOURS</td>
<td>1.8527</td>
<td>$27,791</td>
</tr>
<tr>
<td>177</td>
<td>RESPIRATORY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>INFECTIONS &amp; INFLAMMATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>179</td>
<td>W/O CC/MCC</td>
<td>0.9741</td>
<td>$14,612</td>
</tr>
<tr>
<td>193</td>
<td>SIMPLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>194</td>
<td>PNEUMONIA &amp; PLEURISY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>195</td>
<td>W/O CC/MCC</td>
<td>0.6997</td>
<td>$10,496</td>
</tr>
</tbody>
</table>

Multiple relative weight by base rate (e.g. $15,000) to get reimbursement

HCAP groups to Simple Pneumonia DRG
CLINICAL DOCUMENTATION INTEGRITY
What Is CDI?
Clinical Documentation Integrity

- **Ultimate Goal**: Accurate and clinically congruent ICD-9-CM, ICD-10-CM/PCS and/or CPT codes
- **Definition**: Clinical documentation (and coding) integrity (CDI) is the *process and effort* that addresses these elements:
  - Legibility
  - Clarity
  - Consistency
  - Completeness
  - Precision
  - Resolution of conflicting statements
  - Ensuring reliability of documented conditions
- CDI is emphasized in the *ICD-10 Official Guidelines for Coding and Reporting*, which states:
  - A joint effort between the healthcare provider and the coder is essential to achieve complete and accurate documentation, code assignment, and reporting of diagnoses and procedures.
  - The importance of consistent, complete documentation in the medical record cannot be overemphasized. Without such documentation accurate coding cannot be achieved.
What Is CDI *not*?
Clinical Documentation **Integrity**

CDI is *not*:

- Up-coding
  - Up-coding is attributing to a patient a condition they do not have
  - Knowingly billing for services at a level of complexity higher than the service actually provided or documented in the file

CDI *is*:

- Understanding the rules, regulations, guidelines that have been prepared (largely by non-physicians), and mandated by law (HIPAA), that we must follow

- Deviation from the rules?
  - **Abuse:** practices that, either directly or indirectly, result in unnecessary costs to the Medicare Program – No intent to defraud.
  - **Fraud:** Knowingly submitting false statements or making misrepresentations of fact to obtain a federal health care payment for which no entitlement would otherwise exist – Intent to defraud.

CDI Team Composition

• **Providers**
  – Primary agents for condition or treatment definition, diagnosis, and documentation

• **Coders**
  – Content experts and final authorities on what codes are submitted
  – Usually tasked with post-discharge (retrospective) query

• **Concurrent (pre-discharge) reviewers**
  – Nurses or coders who negotiate CDI principles prior to patient discharge

• **Compliance officer**
  – Ensures the process can withstand retrospective scrutiny

• **Service line directors**
  (e.g., CV, orthopedic, trauma, obstetrics)
  – Negotiates terminology and documentation structure that systemizes clinical information capture with providers, coders, and CDI team

• **Medical informatics**
  – Incorporates ICD-10 or CPT terminology into paper or electronic medical record (EMR)

• **Ancillaries, such as**
  – Dietitians
  – Wound care
  – Respiratory therapy
  – Physical therapy

• **Others**

**Physician advisors and C-suite are active supporters and champions**
CDI Foundations Responsibilities

• Physician/provider
  – **Definition** of diagnostic or therapeutic terminology
  – **Diagnosis** or **description** of patient conditions or treatments
  – **Documentation** in the medical record

• Everyone
  – **Defense** when held accountable by outside entities

• **Clinical documentation, ancillary, and coding staff (facility)**
  – **Deciphering** unclear, inconsistent, incomplete, imprecise, unreliable, conflicting, or illegible documentation in light of the clinical circumstances
  – **Delineation** of documented diagnoses or treatments in the context of their actual occurrence and within the limitations of HIPAA-associated transaction sets
  – **Deployment** of ICD-10 and CPT/HCPCS codes based upon the actual and vetted provider documentation
Examples of Situations Requiring CDI

• **Legibility** —
  – Defined as the ability of two or more individuals (other than the author) to read what is written

• **Reliability** —
  – Repetitive, identical “copy and paste” EMR notes can imply invalid documentation
  – A condition, mentioned only once, may not demonstrate clinical confidence in the dx

• **Completeness** —
  – A report indicating abnormal test results without notation of the clinical significance of these results.
  – MRI shows a “mid-line shift” (uncodeable) without documentation of a subfalcine herniation
  – A serum sodium is 125 meq/L without documentation of hyponatremia

• **Precision** —
  – Clinical reports or condition suggest a more specific diagnosis than is documented
    • e.g., An echocardiogram shows an ejection fraction of 20% in a patient with heart failure, suggestive of systolic heart failure

Examples of Situations Requiring CDI

• **Clarity** –
  - Diagnosis noted without a stated cause, suspected cause, or time of occurrence
    - e.g., the patient is admitted with abdominal pain, fever, and chest pain and no underlying cause or suspected cause is documented
    - e.g., a patient is found to have a **pulmonary embolus** on the second hospital day, after admission for **syncope**; If it remains undocumented as **present on admission**, it qualifies as a **hospital-acquired condition**.

• **Consistency** –
  - Disagreement between two or more providers
    - e.g., the attending physician states the patient had a TIA, the neurologist states **stroke**
  - Need for acute conditions to be documented more than once
    - Optimally 3 times for acute conditions
    - “Rule of Three:” 1) H&P, 2) Progress note, 3) D/C summary

Very frequently underdiagnosed because it is never the primary reason for the hospitalization. Other conditions are at least the initial focus of attention.

MALNUTRITION
May 2012
Game Changer Source:

FROM THE ACADEMY
Consensus Statement

Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition)

Jane V. White, PhD, RD, FADA; Peggi Guenter, PhD, RN; Gordon Jensen, MD, PhD, FASPEN; Ainsley Malone, MS, RD, CNSC; Marsha Schofield, MS, RD; the Academy Malnutrition Work Group; the A.S.P.E.N. Malnutrition Task Force; and the A.S.P.E.N. Board of Directors

Source: http://www.tinyurl.com/2012ASPENmalnutrition
Adult Malnutrition
Circumstance Based

Nutrition Risk Identified
Compromised intake or loss of body mass.

Inflammation present? No / Yes

No

Yes
Mild to Moderate Degree

Starvation Related Malnutrition
(pure chronic starvation, anorexia nervosa)

Chronic Disease – Related Malnutrition
(organ failure, pancreatic cancer, rheumatoid arthritis, sarcopenic obesity)

Yes
Marked Inflammatory Response

Acute Disease or Injury-Related Malnutrition
(major infection, burns, trauma, closed head injury)

Malnutrition

• Because no single parameter is definitive for adult malnutrition, the identification of 2 or more of the following 6 characteristics is recommended for diagnosis:
  1. Insufficient energy intake
  2. Weight loss
  3. Loss of muscle mass
  4. Loss of subcutaneous fat
  5. Localized or generalized fluid accumulation
     - May sometimes mask weight loss
  6. Diminished functional status as measured by handgrip strength
     - (lbs./inch^2)

Prealbumin and albumin are no longer criteria for malnutrition
Characteristics to identify severe malnutrition

- Measures the physical function/performance
- Hand grip strength
  - Dynamometer
  - Standards (excellent, good, average, fair, poor) for dominant hand, by gender and age
  - Maximum reading (kg) from three attempts, allow one minute rest between attempts

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
## Adult Malnutrition Criteria

### Malnutrition in the Context of Acute Illness or Injury

<table>
<thead>
<tr>
<th>Clinical Characteristic</th>
<th>Nonsevere (Moderate) Malnutrition</th>
<th>Severe Malnutrition</th>
<th>Nonsevere (Moderate) Malnutrition</th>
<th>Severe Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake(^1)</td>
<td>$&lt;$75% of estimated energy requirement for $&gt;$7 days</td>
<td>$\leq$50% of estimated energy requirement for $\geq$5 days</td>
<td>$&lt;$75% of estimated energy requirement for $\geq$1 month</td>
<td>$\leq$75% of estimated energy requirement for $\geq$1 month</td>
</tr>
</tbody>
</table>

### Malnutrition in the Context of Chronic Illness

<table>
<thead>
<tr>
<th>Clinical Characteristic</th>
<th>Nonsevere (Moderate) Malnutrition</th>
<th>Severe Malnutrition</th>
<th>Nonsevere (Moderate) Malnutrition</th>
<th>Severe Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake(^1)</td>
<td>$&lt;$75% of estimated energy requirement for $&gt;$7 days</td>
<td>$\leq$50% of estimated energy requirement for $\geq$5 days</td>
<td>$&lt;$75% of estimated energy requirement for $\geq$1 month</td>
<td>$\leq$75% of estimated energy requirement for $\geq$1 month</td>
</tr>
</tbody>
</table>

### (2) Interpretation of weight loss\(^2\)

- Mild
- Moderate
- Severe

<table>
<thead>
<tr>
<th>% Time</th>
<th>% Time</th>
<th>% Time</th>
<th>% Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 wk</td>
<td>$&gt;$2 wk</td>
<td>5-1 mo</td>
<td>$&gt;$5 1 mo</td>
</tr>
<tr>
<td>5-1 mo</td>
<td>$&gt;$5 1 mo</td>
<td>7.5-3 mo</td>
<td>$&gt;$7.5 3 mo</td>
</tr>
<tr>
<td>7.5-3 mo</td>
<td>$&gt;$7.5 3 mo</td>
<td>10-6 mo</td>
<td>$&gt;$10 6 mo</td>
</tr>
<tr>
<td>20-1 y</td>
<td>$&gt;$20 1 y</td>
<td>NA</td>
<td>Measurably reduced</td>
</tr>
</tbody>
</table>

### (3) Body fat

- Mild
- Moderate
- Severe

- Loss of subcutaneous fat (eg, orbital, triceps, fat overlying the ribs)

### (4) Muscle mass

- Muscle loss (eg, wasting of the temples [temporalis muscle], clavicles [pectoralis and deltoids], shoulders [deltoids], interosseous muscles, scapula [latissimus dorsi, trapezius, deltoids], thigh [quadriceps], and calf [gastrocnemius])

### (5) Fluid accumulation

- The clinician may evaluate generalized or localized fluid accumulation evident on exam (extremities, vulvar/serosal edema, or ascites). Weight loss is often masked by generalized fluid retention (edema), and weight gain may be observed.

### (6) Reduced grip strength\(^1\)

- Consult normative standards supplied by the manufacturer of the measurement device

- Mild
- Moderate to severe
- Severe

- NA
- Measurably reduced

### References

1. CDI MD
2. PHYSICIAN CHAMPIONS

### Additional Information

- Acute vs. chronic illness
- Severe vs. non-severe disease
- Albumin/prealbumin don’t matter

[http://tinyurl.com/2012malnutrition](http://tinyurl.com/2012malnutrition)
Including Malnutrition Codes Impacts the DRG

- % of DRGs with malnutrition adding a CC
- % of DRGS with severe malnutrition adding an MCC
Malnutrition

• Most physicians do not qualify malnutrition (as mild, moderate, or severe)
• CMS found that severe malnutrition changed resource utilization whereas mild or moderate did not. As a consequence, malnutrition is an MCC whereas mild/moderate malnutrition is a CC
## MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC</th>
<th>CC</th>
<th>MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased weight)</td>
<td>(modest increased weight)</td>
<td>(major increased weight)</td>
</tr>
<tr>
<td>Abnormal weight loss</td>
<td><strong>Mild</strong> malnutrition</td>
<td><strong>Severe</strong> malnutrition</td>
</tr>
<tr>
<td></td>
<td><strong>Moderate</strong> malnutrition</td>
<td></td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>Cachexia</td>
<td></td>
</tr>
<tr>
<td>Anorexia</td>
<td>Anorexia nervosa</td>
<td></td>
</tr>
<tr>
<td>Underweight</td>
<td><strong>BMI ≤ 19</strong></td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td><strong>BMI ≥ 40</strong></td>
<td></td>
</tr>
<tr>
<td>Morbid obesity due to excess calories</td>
<td>Morbid obesity with alveolar hypoventilation</td>
<td></td>
</tr>
</tbody>
</table>
### MS-DRG CC/MCC Table

<table>
<thead>
<tr>
<th>Not a CC</th>
<th>CC</th>
<th>MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no increased weight)</td>
<td>(modest increased weight)</td>
<td>(major increased weight)</td>
</tr>
<tr>
<td>Obesity</td>
<td>BMI ≥ 40</td>
<td></td>
</tr>
<tr>
<td>Morbid obesity</td>
<td>Morbid obesity</td>
<td></td>
</tr>
<tr>
<td>due to excess calories</td>
<td>with alveolar hypoventilation</td>
<td></td>
</tr>
<tr>
<td>Abnormal weight gain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Malnutrition Relative Weights

<table>
<thead>
<tr>
<th>Description</th>
<th>HCC #</th>
<th>HCC Comm RW</th>
<th>HCC Inst RW</th>
<th>MS-DRG CC/MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe protein– calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>MCC</td>
</tr>
<tr>
<td>Moderate protein calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>CC</td>
</tr>
<tr>
<td>Mild protein calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>CC</td>
</tr>
<tr>
<td>Unspecified protein-calorie malnutrition</td>
<td>21</td>
<td>0.713</td>
<td>0.399</td>
<td>CC</td>
</tr>
</tbody>
</table>

Malnutrition is either severe, or it is not

Comm = community patient  
Inst = institutionalized (e.g., nursing home)
## Obesity Relative Weights

<table>
<thead>
<tr>
<th>Description</th>
<th>HCC #</th>
<th>HCC Comm RW</th>
<th>HCC Inst RW</th>
<th>MS-DRG CC/MCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morbid (severe) obesity due to excess calories</td>
<td>22</td>
<td>0.365</td>
<td>0.579</td>
<td></td>
</tr>
<tr>
<td>Morbid (severe) obesity with alveolar hypoventilation</td>
<td>22</td>
<td>0.365</td>
<td>0.579</td>
<td>CC</td>
</tr>
<tr>
<td>Body mass index (BMI) 40.0 (or greater), adult</td>
<td>22</td>
<td>0.365</td>
<td>0.579</td>
<td>CC</td>
</tr>
<tr>
<td>Obesity, unspecified</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comm = community patient  
Inst = institutionalized (e.g., nursing home)
Why Not Albumin/Visceral Proteins?

• Acute Phase Response
  – Inflammatory disease, illness, injury illicit cytokine-mediated response
  – Interleukin-1 (IL-1), interleukin-6 (IL-6), tumor necrosis factor (TNF)
  – Alter hormone secretion and target organ function
  – Favor a catabolic state

• Acute Phase Metabolic Response
  – Elevation of resting energy expenditure
  – Export of amino acids from muscle to liver
  – Increase in gluconeogenesis
  – Expansion of extracellular fluid
  – Shift towards production of positive acute phase reactants, i.e., CRP

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
Why Not Albumin/Visceral Proteins?

- Body down-regulates albumin synthesis, so urgently needed proteins for immune, clotting, and wound healing functions can be produced
- Positive – Antibodies, complement, C-reactive protein, and fibrinogen
- Negative – Albumin, transferrin, pre-albumin, retinol binding protein
  - Acute phase metabolic response of catabolism likely appropriate in the short-term
  - If the underlying stress is a severe, protracted or repeated, adverse outcomes will result

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
Why Not Albumin/Visceral Proteins?

- Malnourished individuals (pure semi-starvation may exhibit normal visceral proteins (anorexia nervosa))
- Obese persons in diet programs with low protein and energy intake and resulting weight loss may exhibit normal proteins
  - Changes in body cell mass correlate poorly with visceral proteins
  - Changes in dietary intake correlate poorly with visceral proteins
  - Sick people eat less
- Other disease states impact visceral protein synthesis or losses
  - Volume status can limit interpretation
  - Protracted half life of albumin renders it insensitive to measure changes in status
  - Pre-albumins suffers most of the same limitations but has a shorter half-life

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
Rolls of cytokines in muscle regulation and inflammation

- Promote muscle catabolism
- Inhibit protein synthesis and muscle repair
- Trigger apoptosis – programmed cell death
- Influence contractility and function

- Nutrition alone is ineffective in preventing muscle protein loss in inflammation

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
Inflammation promotes –

- Metabolic dysregulation
- Hyperglycemia
- Decreased visceral proteins
- Muscle catabolism
- Edema
- Anorexia
- Malaise and deconditioning

Inflammation can blunt favorable responses to nutrition intervention

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
“Practical” indicators of inflammation?

- **Lab**
  - C-reactive protein (CRP)
  - Cytokines, IL-6
  - Pro calcitonin

- **Clinical signs**
  - Fever
  - Leukocytosis
  - Hyperglycemia (in the absence of diabetes)

Clinical diagnostic expertise is needed

Source: New Characteristics and Criteria to Define Adult Malnutrition, ASPEN Clinical Nutrition Webinar, Jane V. White, PhD, RD
Helpful to Know

ADDITIONAL CODING RULES
ICD-10 Coding Rules

• Arrow up (↑) or down (↓) with labs cannot be interpreted as abnormal
  – Document: “hyponatremia”
    • ↓ Na of 120 meq/liter ≠ hyponatremia
  – Document: “anemia”
    • ↓ Hct ≠ Anemia

• Coders cannot code from EKG, laboratory, X-ray or pathology reports
  – Name the dysrhythmia
  – Clinical significance of the abnormal lab
  – Acknowledge pathologic findings in radiology, pathology reports
Language Differences

“≠” means, “will not be coded as”

- **Urosepsis ≠ Sepsis**
  - Urosepsis codes to a bladder infection in ICD-9, to *nothing* in ICD-10

- **Bacteremia ≠ Septicemia**
  - Bacteremia may be asymptomatic; Septicemia is more severe

- **Community Acquired (simple) Pneumonia**
  - All pneumonias are coded as simple (RW 1.0) unless physician specifies a complex pneumonia (pseudomonas, legionella, MRSA, or aspiration) as a likely cause. Then it becomes a “respiratory infection/inflammation,” with higher relative weight (1.6).
ICD-10: Medication Underdosing

• If a patient’s condition is due to underdosing of prescribed medications
  – Seizures due to subtherapeutic medication level
  – Hypothyroidism due to inadequate Synthroid compliance
  – Hyperglycemia in diabetic due to inadequate insulin administration

• Further divided into:
  – Intentional, such as due to financial hardship or willful noncompliance
  – Unintentional, such as due to age-related debility or other defined reasons

While these codes currently do not impact reimbursement or profiling, they can play a role if patient responsibility becomes a factor in provider quality assessment.
# Underdosing

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T383X6A</td>
<td>Underdosing of insulin and oral hypoglycemic [antidiabetic] drugs, initial encounter</td>
</tr>
<tr>
<td>T383X6D</td>
<td>Underdosing of insulin and oral hypoglycemic [antidiabetic] drugs, subsequent encounter</td>
</tr>
<tr>
<td>T383X6S</td>
<td>Underdosing of insulin and oral hypoglycemic [antidiabetic] drugs, sequela</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T384X6A</td>
<td>Underdosing of oral contraceptives, initial encounter</td>
</tr>
<tr>
<td>T384X6D</td>
<td>Underdosing of oral contraceptives, subsequent encounter</td>
</tr>
<tr>
<td>T384X6S</td>
<td>Underdosing of oral contraceptives, sequela</td>
</tr>
</tbody>
</table>
Patient Noncompliance

While “Z-codes” or “external cause” codes are not required by CMS, they do add information useful in patient and provider profiling

<table>
<thead>
<tr>
<th>Z9111</th>
<th>Patient's noncompliance with dietary regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z91120</td>
<td>Patient's intentional underdosing of medication regimen due to financial hardship</td>
</tr>
<tr>
<td>Z91128</td>
<td>Patient's intentional underdosing of medication regimen for other reason</td>
</tr>
<tr>
<td>Z91130</td>
<td>Patient's unintentional underdosing of medication regimen due to age-related debility</td>
</tr>
<tr>
<td>Z91138</td>
<td>Patient's unintentional underdosing of medication regimen for other reason</td>
</tr>
<tr>
<td>Z9114</td>
<td>Patient's other noncompliance with medication regimen</td>
</tr>
<tr>
<td>Z9115</td>
<td>Patient's noncompliance with renal dialysis</td>
</tr>
<tr>
<td>Z9119</td>
<td>Patient's noncompliance with other medical treatment and regimen</td>
</tr>
</tbody>
</table>
Summary
Clinical Documentation Integrity

• Critical that your patient’s diagnoses are classified correctly
  – Coders are not allowed to clinically interpret
  – If you don’t write it down, they cannot code it
  – If they cannot code it, you cannot get credit for that part of your patient’s severity of illness
  • Lower Relative Weights
  • Lower Reimbursements
  • Look worse than you should in comparison with peers
When Specificity Isn’t There

• If a definitive diagnosis has not been established by the end of the encounter, it is appropriate to
  – report sign(s) and/or symptom(s)
  – in lieu of a definitive diagnosis

• Coders have appropriate “unspecified” codes for many things
  – (i.e., a diagnosis of pneumonia has been determined, but not the specific type)
RESOURCES
<table>
<thead>
<tr>
<th>CDI-pertinent Process Resources</th>
<th>CDI-pertinent Physician - Clinical Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physician Champion Job Descriptions and Resources</strong></td>
<td><strong>Cardiology</strong></td>
</tr>
<tr>
<td>• Mount Sinai Medical Center, Miami</td>
<td>• 2014 - Heart Rhythm Society definitions of paroxysmal, persistent, and permanent (chronic) atrial fibrillation and typical and atypical atrial flutter</td>
</tr>
<tr>
<td><strong>National CDI Process Industry Standards or Resources</strong></td>
<td>• 2012 - JACC - Definition of non-sustained ventricular tachycardia</td>
</tr>
<tr>
<td>• 2001 AHIMA Query Practice Brief - AHIMA members only</td>
<td>• 2015 - Review of Troponin Interpretation - Mayo Clinic - full text requires subscription to the AJM</td>
</tr>
<tr>
<td>• 2008 AHIMA Query Practice Brief</td>
<td>• 2012 - 3rd Universal Definition of Myocardial Infarction</td>
</tr>
<tr>
<td>• 2010 AHIMA CDI Practice Brief</td>
<td>• 2014 - Type 1 vs. Type 2 vs. nonischemic myocardial necrosis - American Journal of Medicine</td>
</tr>
<tr>
<td>• 2010 AHIMA CDI Tool Kit</td>
<td>• 2009 - NEJM editorial on ultra-sensitive troponins - requires subscription</td>
</tr>
<tr>
<td>• 2013 AHIMA Query Practice Brief</td>
<td>• 2010 - Heart Failure Society Guidelines on HF</td>
</tr>
<tr>
<td>• 2013 AHIMA Sample Escalation Policy</td>
<td>• 2010 - Heart Failure Society criteria for decompensated HF</td>
</tr>
<tr>
<td>• AHIMA Standards of Ethical Coding</td>
<td>• 2014 - JNC8 Hypertension Guideline</td>
</tr>
<tr>
<td>• AHIMA Ethical Standards for CDI</td>
<td>• 2008 - NEJM article - troponin as a mortality biomarker in acute heart failure</td>
</tr>
<tr>
<td>• ACDIS CDI Code of Ethics</td>
<td>• 2007 - Definition of cardiac tamponade - requires subscription</td>
</tr>
<tr>
<td>• AMA Code of Medical Ethics</td>
<td>• 2013 - Definition of (chronic) cor pulmonale</td>
</tr>
<tr>
<td>• AHA Coding Clinic Advisor</td>
<td>• 2009 - Definition of acute cor pulmonale with HF being integral</td>
</tr>
<tr>
<td><strong>Sample CDI Practices</strong></td>
<td>• 2015 - Definition of acute cor pulmonale with HF not being integral</td>
</tr>
<tr>
<td>• HCA Healthcare Inpatient Coding Policy</td>
<td></td>
</tr>
</tbody>
</table>
ICD-10-CM/PCS Risk Adjustment Resources

- 2015 ICD-10 HCC - MS-DRG CC/MCC - PSI - HACs

Endocrinology and Metabolism

- 2015 - Diabetes mellitus - definition and diagnosis
- 2012 - NEJM - Table defining uncontrolled diabetes
- 2009 - Definitions of DKA and hyperosmolar hyperglycemic states
- Thyrotoxic crisis diagnostic criteria
- Morbid Obesity Definition (BMI > 40)
  - Morbid obesity - Medicare criteria for payment
- Cushing's syndrome criteria
- 2012 AND-ASPEN Criteria for Adult Malnutrition
- 2013 Pediatric Malnutrition Criteria
- 2014 Pediatric Malnutrition Addendum to 2013 Criteria

Nephrology

- 2012 KDIGO Acute Kidney Injury (Renal Failure) criteria
- 2008 Prerenal AKI vs. Intrarenal ATN criteria
- 2012 KDIGO Chronic Kidney Disease criteria
- CMS ESRD Definition - page 3 of pdf
- KDIGO ESRD Definition

Neurology

- 2013 Stroke Definition
- 2010 NIH Definition of Encephalopathy
- Toxic Encephalopathy Definition and Review
- Acute Toxic Metabolic Encephalopathy Definition