SEARCH

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Documentation's Impact on Physician Practice

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

October 2015

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- **Establishing the Physician's Quality and Cost-Efficiency Portrayals**

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AHIMA-Approved ICD-10-CM/PCS Trainer

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Objectives

	Subject	Task
1	**ICD-10**	Understand what is new and different from ICD-9
2	**Risk Adjustments**	What they are; How they are used to determine quality, cost-efficiency, provider and hospital comparisons
3	**Quality and Cost-Efficiency Analysis**	How it is accomplished
4	**Changing Reimbursements**	Based on quality and cost-efficiency analysis and risk adjustments
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 Administrative Languages**	The translation of documented clinical language to the language of billing and processing • Focus upon MS-DRG, APR-DRG, and HCC methodologies
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

Code Type	ICD-9-CM	ICD-10-CM ICD-10 PCS
Diagnosis	14,567 codes	69,832 codes
Procedure	3,878 codes	71,920 codes

- **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.

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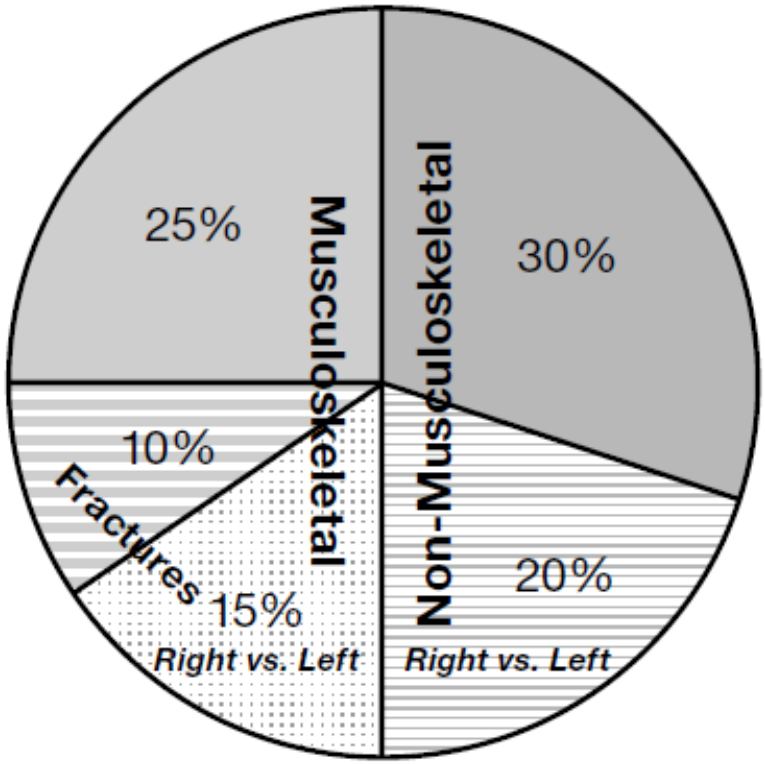
Overall Changes



- 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

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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

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

- 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)

ICD-10-CM: Based on pt.'s phase of healing, not physician's encounter

- 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

Combination Codes in ICD-10-CM

ICD-10 Code	Description
T5801XA	Toxic effect of carbon monoxide from motor vehicle exhaust, accidental (unintentional), initial encounter
T5801XD	Toxic effect of carbon monoxide from motor vehicle exhaust, accidental (unintentional), subsequent encounter
T5801XS	Toxic effect of carbon monoxide from motor vehicle exhaust, accidental (unintentional), sequela
T5802XA	Toxic effect of carbon monoxide from motor vehicle exhaust, intentional self-harm, initial encounter
T5802XD	Toxic effect of carbon monoxide from motor vehicle exhaust, intentional self-harm, subsequent encounter
T5802XS	Toxic effect of carbon monoxide from motor vehicle exhaust, intentional self-harm, sequela

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

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

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CMS National Coverage Determinations
ICD-10 Codes for Home PT Monitoring

NCD:	190.11
NCD Title:	Home Prothrombin Time/International Normalized Ratio (PT/INR) Monitoring for Anticoagulation Management
IOM:	http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/ncd103c1_Part3.pdf
MCD:	http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=269&ver=2

ICD-9-CM	ICD-9 DX Description	ICD-10 CM	ICD-10 DX Description
289.81	Primary hypercoagulable state	D68.51	Activated protein C resistance
289.81	Primary hypercoagulable state	D68.52	Prothrombin gene mutation
289.81	Primary hypercoagulable state	D68.59	Other primary thrombophilia
289.81	Primary hypercoagulable state	D68.61	Antiphospholipid syndrome
289.81	Primary hypercoagulable state	D68.62	Lupus anticoagulant syndrome
415.11	Iatrogenic pulmonary embolism and infarction	I26.90	Septic pulmonary embolism without acute cor pulmonale
415.11	Iatrogenic pulmonary embolism and infarction	I26.99	Other pulmonary embolism without acute cor pulmonale
415.12	Septic pulmonary embolism	I26.01	Septic pulmonary embolism with acute cor pulmonale
415.12	Septic pulmonary embolism	I26.90	Septic pulmonary embolism without acute cor pulmonale
415.19	Other pulmonary embolism and infarction	I26.09	Other pulmonary embolism with acute cor pulmonale
415.19	Other pulmonary embolism and infarction	I26.99	Other pulmonary embolism without acute cor pulmonale
427.31	Atrial fibrillation	I48.0	Paroxysmal atrial fibrillation
427.31	Atrial fibrillation	I48.2	Chronic atrial fibrillation
427.31	Atrial fibrillation	I48.91	Unspecified atrial fibrillation

http://tinyurl.com/CMSICD10LCDs

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Requirement for Laterality

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ICD-9-CM to ICD-10-CM General Equivalence Mapping with Enhanced ICD-10-CM Specificity

http://www.cdimd.com
1-855-MY-CDI-MD

ICD9	ICD9 Title	ICD10	ICD-10 Title	Mapping Theory
81012	Open fracture of shaft of clavicle	S42024B	Nondisplaced fracture of shaft of right clavicle, initial encounter for open fracture	Approximate match
81012	Open fracture of shaft of clavicle	S42025B	Nondisplaced fracture of shaft of left clavicle, initial encounter for open fracture	Approximate match
81012	Open fracture of shaft of clavicle	S42026B	Nondisplaced fracture of shaft of unspecified clavicle, initial encounter for open fracture	Approximate match
81013	Open fracture of acromial end of clavicle	S42031B	Displaced fracture of lateral end of right clavicle, initial encounter for open fracture	Approximate match
81013	Open fracture of acromial end of clavicle	S42032B	Displaced fracture of lateral end of left clavicle, initial encounter for open fracture	Approximate match
81013	Open fracture of acromial end of clavicle	S42033B	Displaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture	Approximate match
81013	Open fracture of acromial end of clavicle	S42034B	Nondisplaced fracture of lateral end of right clavicle, initial encounter for open fracture	Approximate match
81013	Open fracture of acromial end of clavicle	S42035B	Nondisplaced fracture of lateral end of left clavicle, initial encounter for open fracture	Approximate match
81013	Open fracture of acromial end of clavicle	S42036B	Nondisplaced fracture of lateral end of unspecified clavicle, initial encounter for open fracture	Approximate match

Unspecified Laterality = Denied Claim

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General Equivalence Mapping: *Neurology, Neurosurgery*

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

- 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"

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General Equivalence Mapping
Office Encounters

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

This exercise will NOT capture new ICD-10 specificities

Validate all mappings using ICD-10 Index, Table, and Guidelines

General Equivalence Mapping
Office Encounters

V701	General psychiatric examination, requested by the authority	Z046	Encounter for general psychiatric examination, requested by authority	Exact match
V702	General psychiatric examination, other and unspecified	Z008	Encounter for other general examination	Approximate match
V703	Other general medical examination for administrative purposes	Z020	Encounter for examination for admission to educational institution	Approximate match
V703	Other general medical examination for administrative purposes	Z022	Encounter for examination for admission to residential institution	Approximate match
V703	Other general medical examination for administrative purposes	Z024	Encounter for examination for driving license	Approximate match
V703	Other general medical examination for administrative purposes	Z025	Encounter for examination for participation in sport	Approximate match
V703	Other general medical examination for administrative purposes	Z026	Encounter for examination for insurance purposes	Approximate match
V703	Other general medical examination for administrative purposes	Z0282	Encounter for adoption services	Approximate match
V703	Other general medical examination for administrative purposes	Z0289	Encounter for other administrative examinations	Approximate match

This exercise will NOT capture new ICD-10 specificities

Validate all mappings using ICD-10 Index, Table, and Guidelines

Vaccinations

V061	Need for prophylactic vaccination and inoculation against diphtheria-tetanus-pertussis, combined [DTP] [DTaP]	Z23	Encounter for immunization
V062	Need for prophylactic vaccination and inoculation against diptheria-tetanus- pertussis with typhoid-paratyphoid (DTP + TAB)	Z23	Encounter for immunization
V063	Need for prophylactic vaccination and inoculation against diptheria-tetanus- pertussis with poliomyelitis [DTP + polio]	Z23	Encounter for immunization
V064	Need for prophylactic vaccination and inoculation against measles-mumps-rubella (MMR)	Z23	Encounter for immunization
V065	Need for prophylactic vaccination and inoculation against tetanus-diphtheria [Td] (DT)	Z23	Encounter for immunization
V066	Need for prophylactic vaccination and inoculation against streptococcus pneumoniae [pneumococcus] and influenza	Z23	Encounter for immunization
V068	Need for prophylactic vaccination and inoculation against other combinations of diseases	Z23	Encounter for immunization

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

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BACKGROUND

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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

World Health Organization

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International Classification of Disease

World Health Organization — *Versions* — ICD-10 www.cms.gov/ICD10

World Health Organization ICD-10	**US-Clinical Modification (CM) ICD-10-CM**
• **ICD-9** Worldwide release 1977 →	• **ICD-9-CM, Clinical Modification** 1979
• **ICD-10** Worldwide release 1993 →	• **ICD-10** (for death certificates) 1999
	• **ICD-10-CM, ICD-10-PCS** 2015, Adopted for clinical use
• **ICD-11** rollout 2017(tentative) ⋯→	• US Adoption of ICD-11-CM/PCS 2020 (or likely later)

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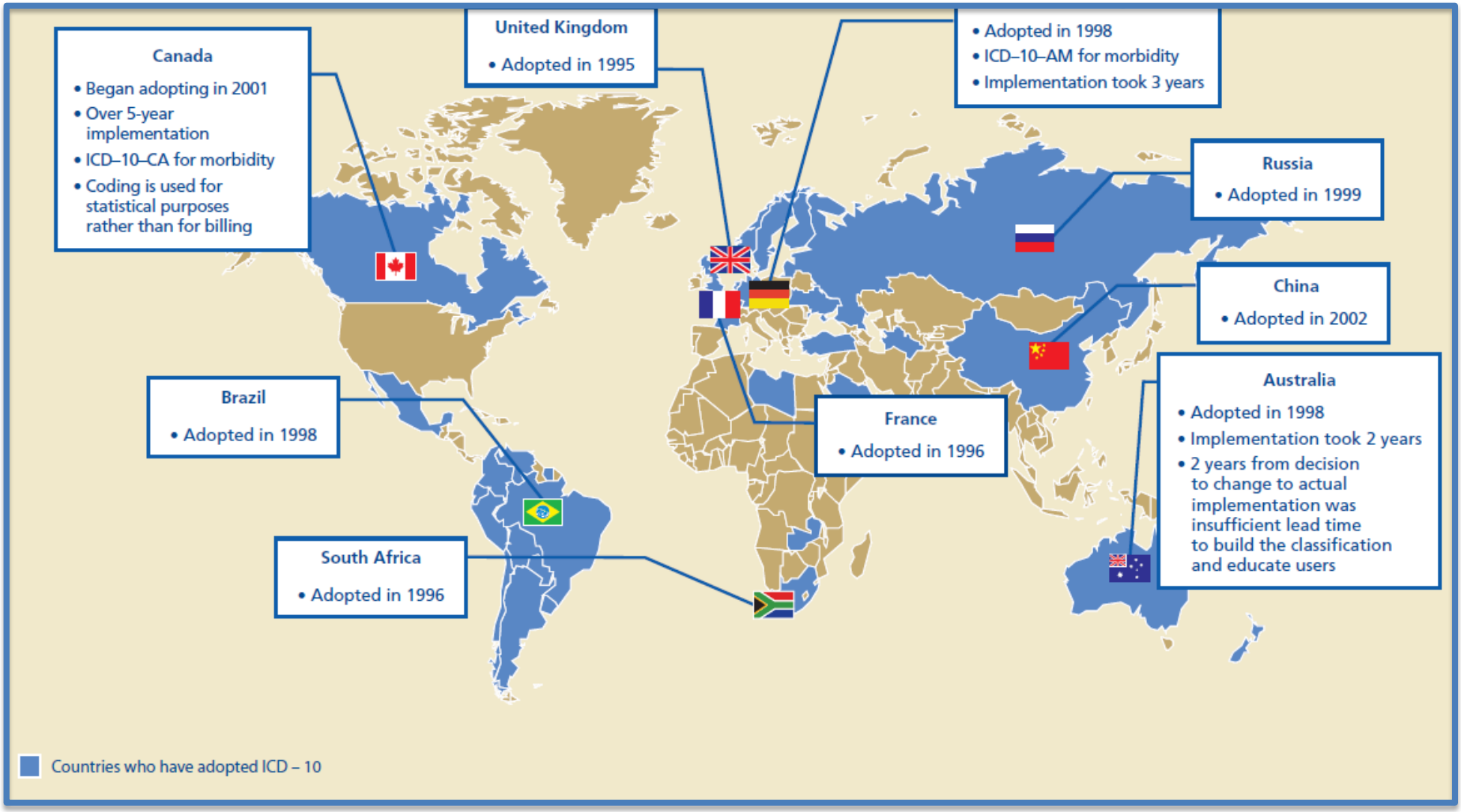
Countries in Blue Have Adopted ICD-10



- The US is the last industrialized country to adopt ICD-10
- The US is the *only* country to tie ICD-10 to billing & reimbursement

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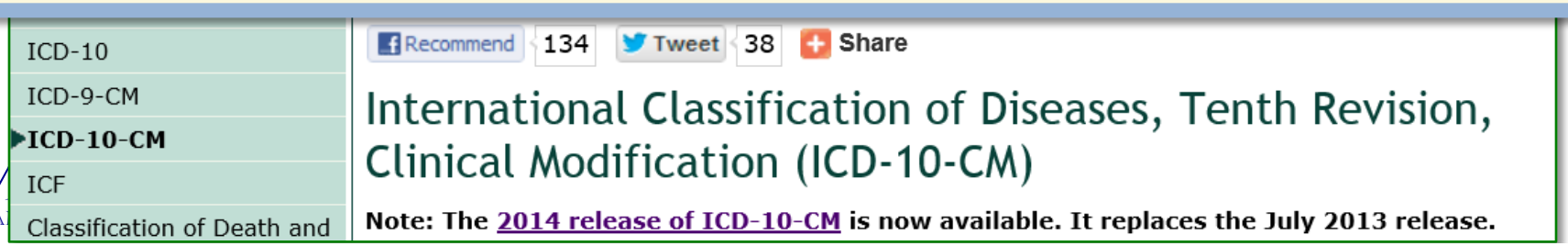
US Modifications: ICD-10-CM & PCS
The Cooperating Parties

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

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Center for Medicare & Medicaid Services' Game Plan

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

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

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ICD-10-CM codes determine how payments are adjusted

CMS Physician Final Rule - 2015

Information Input

- **Physician Quality Reporting System (PQRS)** - active until 2018
- **Claims data**

FEDERAL REGISTER

Vol. 79 Friday,
No. 133 July 11, 2014

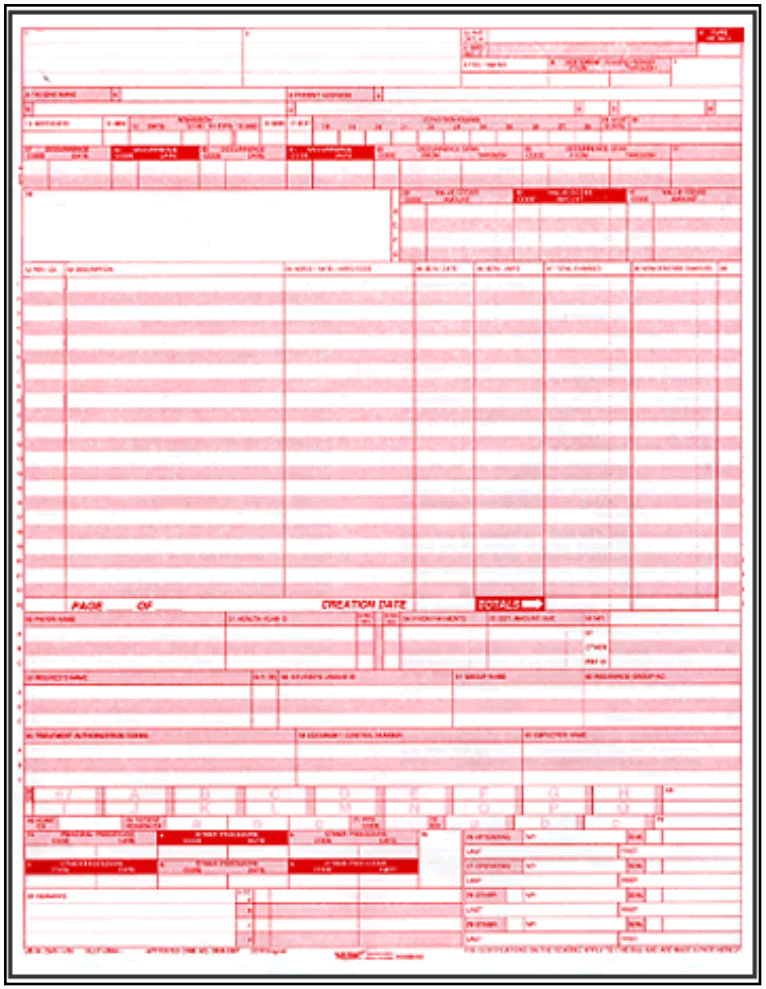
Part III

Department of Health and Human Services

Centers for Medicare & Medicaid Services

42 CFR Parts 403, 405, 410, et al.
Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule, Clinical Laboratory Fee Schedule, Access to Identifiable Data for the Center for Medicare and Medicaid Innovation Models & Other Revisions to Part B for CY 2015; Proposed Rule

Codes go to Claim forms.
Code data used to evaluate quality & cost-efficiency



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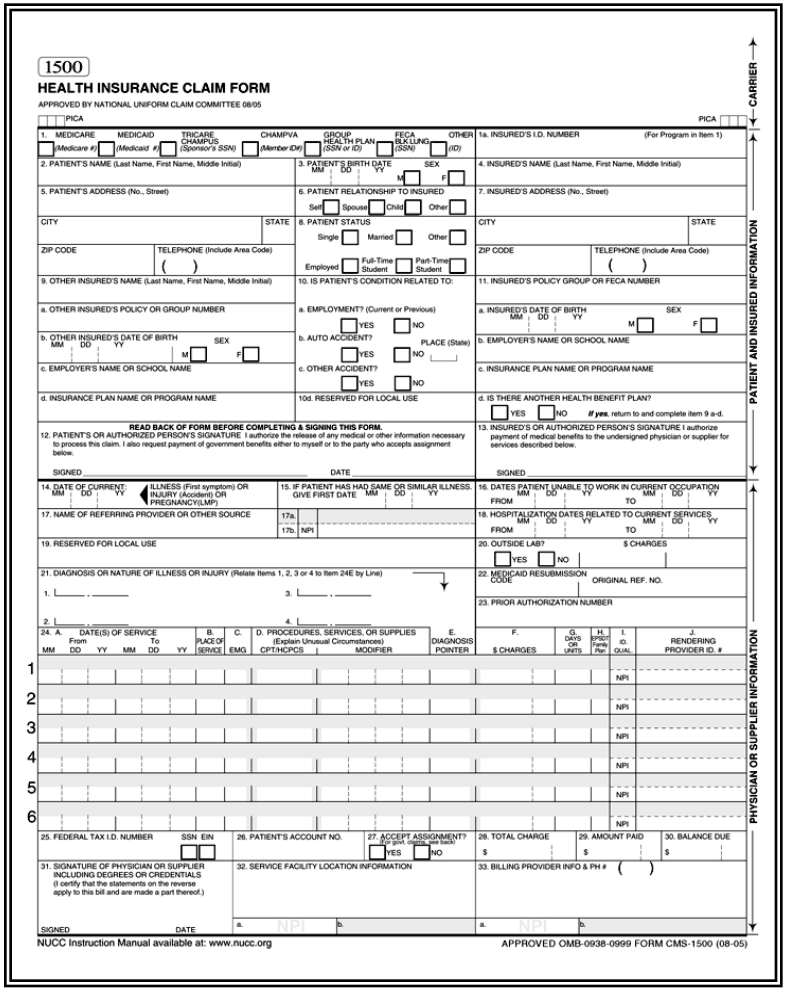

CMS 1500

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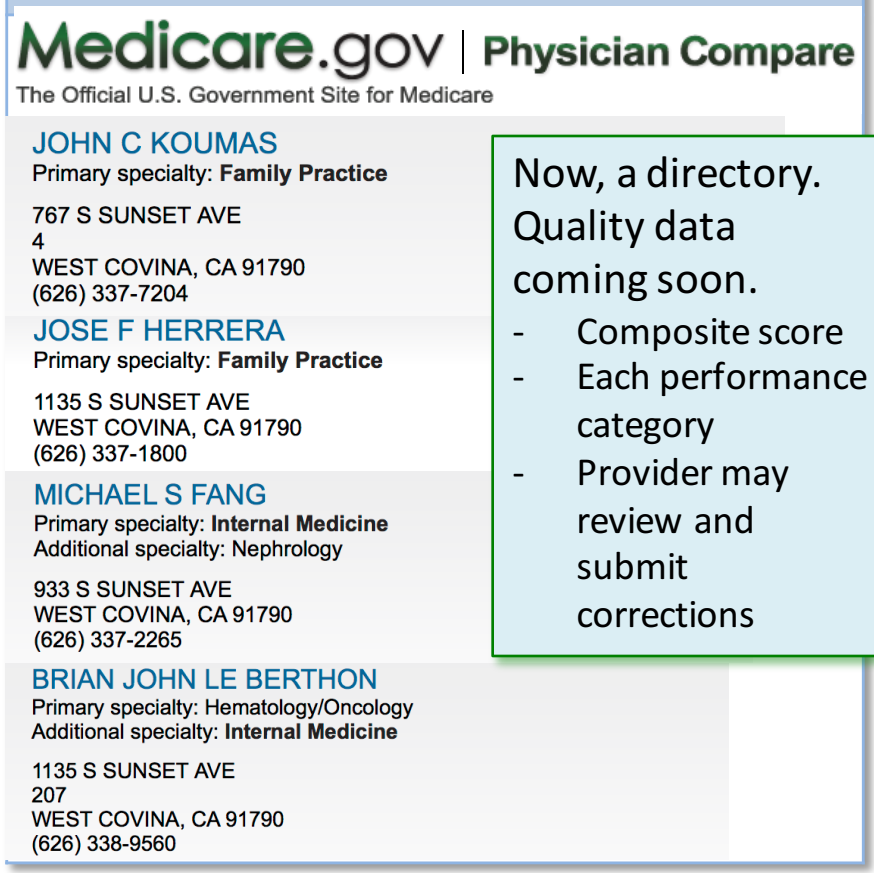
Reporting of Assessments

Physician Compare

Public



Now, a directory. Quality data coming soon.

- Composite score
- Each performance category
- Provider may review and submit corrections

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

CMS Medicare Value Based Modifier 2017 Implementation (2015 Data)

Medicare Physician Value Based Modifier		Quality Composite Score		
		Low	Average	High
Cost	Low	+0.0%	+2.0%*	+4.0%*
	Average	-2.0%	+0.0%	+2.0%*
	High	-4.0%	-2.0%	+0.0%

*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. **(≥ 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:
http://www.modernhealthcare.com/article/20150325/NEWS/150329948?utm_source=modernhealthcare&utm_medium=email&utm_content=externalURL&utm_campaign=am

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

$$\frac{\textbf{Observed Outcomes}}{\textbf{Expected Outcomes}} = \textbf{Risk Adjusted Outcomes}$$

$$\frac{\text{Risk Adjusted Outcomes}}{\text{Expenditures}} = \text{Cost Efficiency}$$

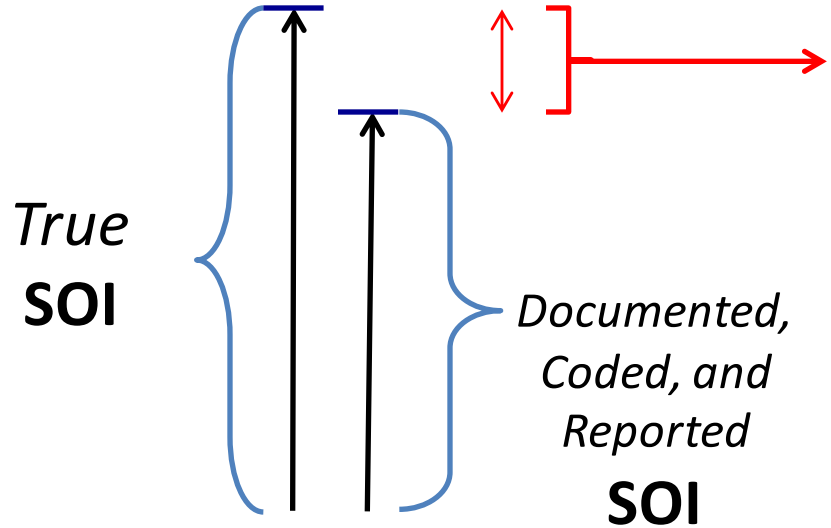
- Mortality
- Length of stay
- Pharmacologic utilization
- Radiologic utilization
- Post-procedure infections
- Readmission

The Problem: Documentation Gaps

$$\frac{\textbf{Observed Outcomes}}{\textbf{Expected Outcomes}} = \textbf{Risk Adjusted Outcomes}$$

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



SOI = severity and complexity of illness

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.

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The Problem: Documentation Gaps

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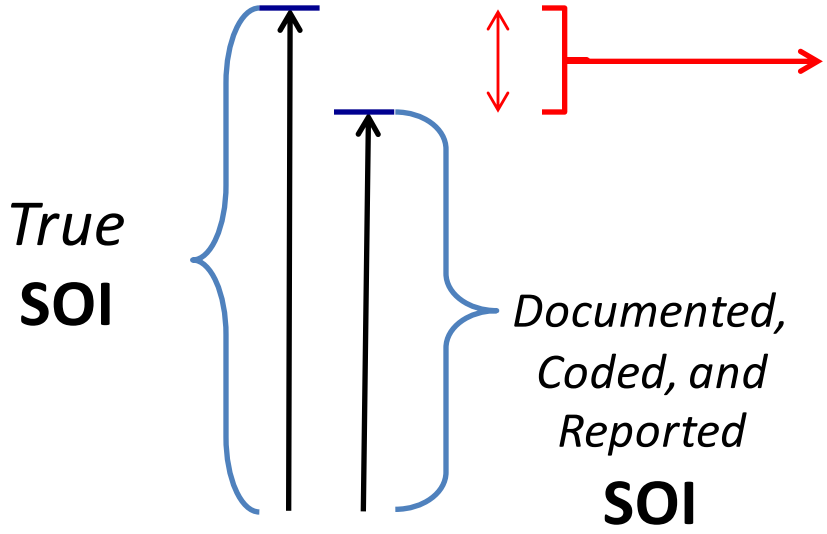

SOI = severity and complexity of illness

- 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

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The Problem: Documentation Gaps

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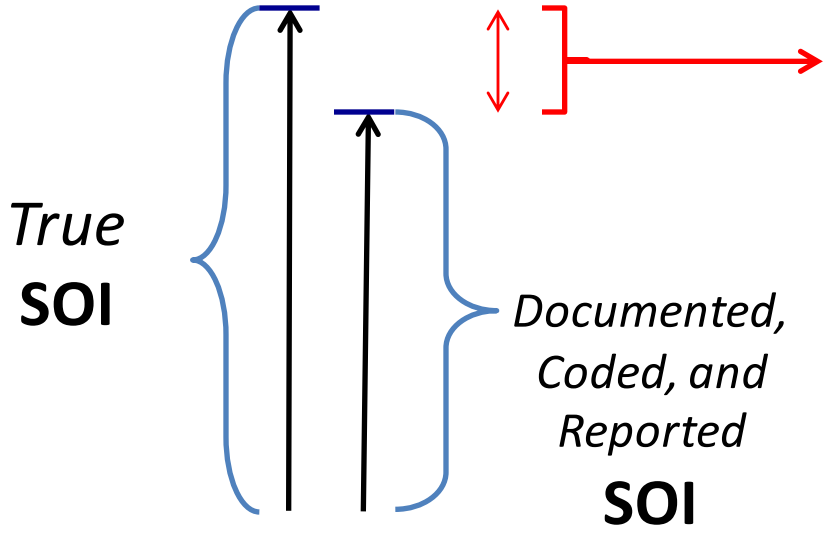

Filling this gap will be the solution to:
- ✓ Reducing medical necessity denials
- ✓ Accurate quality portrayal
- ✓ Accurate cost efficiency portrayal
- ✓ Coding specificity of ICD-10

SOI = severity and complexity of illness

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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

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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

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

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

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

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

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HCCs: CAD with *or* without Angina

ICD-10 Code	Description	HCC Code	Weight Community	Weight Institut
I240	Acute coronary thrombosis not resulting in myocardial infarction	87	0.264	0.528
I241	Dressler's syndrome	87	0.264	0.528
I248	Other forms of acute ischemic heart disease	87	0.264	0.528
I249	Acute ischemic heart disease, unspecified	87	0.264	0.528
I2510	Atherosclerotic heart disease of native coronary artery without angina pectoris	0	Other	Other
I25110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris	87	0.264	0.528
I25111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm	88	0.145	0.485
I25118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris	88	0.145	0.485
I25119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris	88	0.145	0.485
I2582	Chronic total occlusion of coronary artery	0	Other	Other
I2583	Coronary atherosclerosis due to lipid rich plaque	0	Other	Other
I2584	Coronary atherosclerosis due to calcified coronary lesion	0	Other	Other
I2589	Other forms of chronic ischemic heart disease	0	Other	Other
I259	Chronic ischemic heart disease, unspecified	0	Other	Other

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

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Name that Condition!!!

What are we treating?

Medication		**Condition**
Obvious		
• Antiglycemic	→	Diabetes (even w/ nml BS, HbA1C)
• Antihypertensive	→	Hypertension (even w/ nml BP)
• Antiseizure	→	Seizure disorder
No so obvious		
• Long-acting nitrate	→	Angina
• Antidysrhythmic	→	AF, VT (even if in NSR)
• Antiretroviral	→	AIDS, HIV disease (if ever has had an AIDS-defining condition or CD4 count)

Pneumonia
MS-DRG Pneumonia Classifications

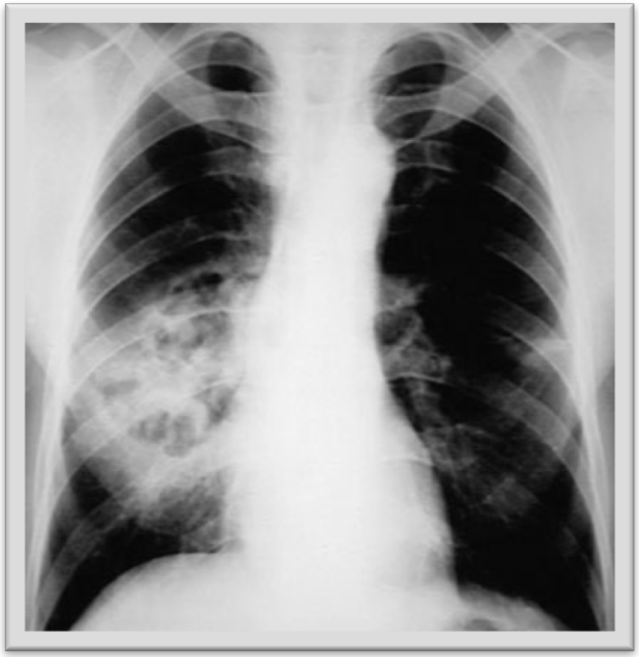
Simple pneumonia and pleurisy		Respiratory infections and inflammations	
MS-DRG 193, 194, 195	(RW 1.0)	MS-DRG 177, 178, 179	(RW 1.6)

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

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

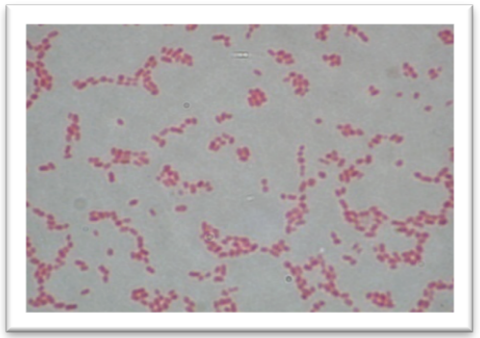
- Aspiration
- Immunocompromised state
  - Alcoholism
  - Corticosteroid use
  - Malignancy
  - Malnutrition
  - AIDS
  - Primary immunodeficiencies
- Cystic fibrosis
  - Pseudomonas, Staph. aureus
- Lung cancer
  - Higher incidence of GNR & MRSA
- Pleural effusions requiring drainage
  - pH < 7.20 or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



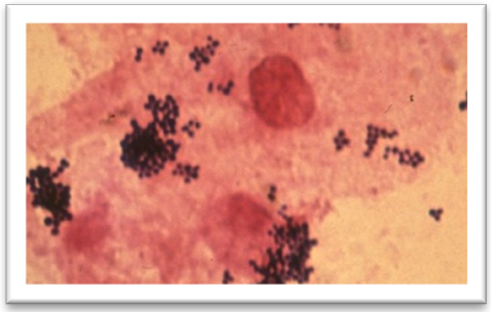
- **ICD-10-CM codes are based on the organism causing pneumonia**
- ***What is the target organism if cultures are negative?***

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
  - Carbepenams – aspiration, pseudomonas, other GNRs
  - Vancomycin – MRSA or enterococcus (rare)
  - Amphotericin or fluconazole – Fungus
  - INH, Rifampin, Ethambutol – Possible TB



Probable GNR



Possible MRSA

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

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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

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MS-DRG Options

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

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

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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

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Source: http://www.sccm.org/Documents/SSC-Guidelines.pdf

Specificity: **Severe Sepsis**

- **Severe sepsis**: sepsis with **acute organ dysfunction**
  - Organ dysfunction variables
    - Arterial hypoxemia ($PaO_2/FiO_2 < 300$)
    - Acute oliguria (urine output < 0.5 mL/kg/hr for at least 2 hrs despite adequate fluid resuscitation)
    - Creatinine increase > 0.5 mg/dL or 44.2 µmol/L
    - Coagulation abnormalities (INR > 1.5 or aPTT > 60 s)
    - Ileus (absent bowel sounds)
    - Thrombocytopenia (platelet count < 100,000/µL)
    - Hyperbilirubinemia (plasma total bilirubin > 4 mg/dL or 70 µmol/L)
    - Tissue perfusion variables
      - Decreased capillary refill or mottling

Source: http://www.sccm.org/Documents/SSC-Guidelines.pdf

Specificity: **Septic Shock**

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

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 ≥ 4.0 mmol/L.
  - Pallor, mottling, delayed capillary refill (particularly in pediatrics)

Source: N Engl J Med 2014; 371:1496-1506 October 16, 2014

Urosepsis

~~**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

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

Not a CC	CC	MCC

• CHF or "history of CHF"
• Systolic or diastolic Dysfunction
• Heart failure with normal or reduced ejection fraction
• Decompensated CHF
	• Systolic HF
	• Diastolic HF
	• Systolic/diastolic HF
		• **Decompensated** (or **Acute**)
		  • Systolic HF
		  • Diastolic HF
		  • Systolic/diastolic HF

• Hypoxemia • Hypercapnia	• Chronic respiratory failure	• Acute (on chronic) respiratory failure
• Prolonged hypotension • Hypoperfusion	• Shock, unspecified	• Cardiogenic or hypovolemic shock

CHF as a Secondary Diagnosis

ICD-9	MS-DRG	Title
4280		CHF NOS – DECOMPENSATED CHF RIGHT HEART FAILURE NOS
4289		HEART FAILURE NOS

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"

- 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

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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

"Caused by," "due to," "resulting in"

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

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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.

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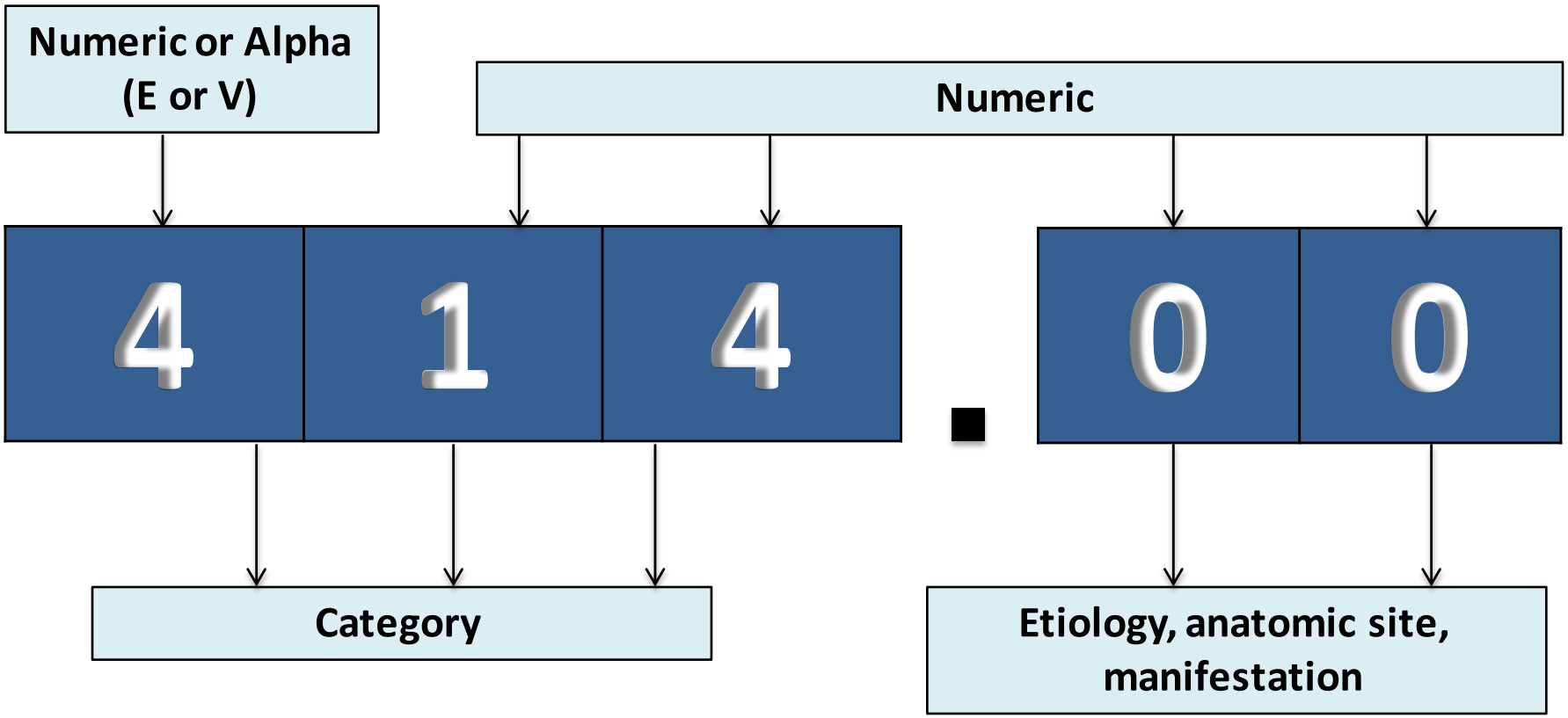
ICD-9-CM Structure – Format



Five digits. No room for expansion for new diagnoses, procedures.

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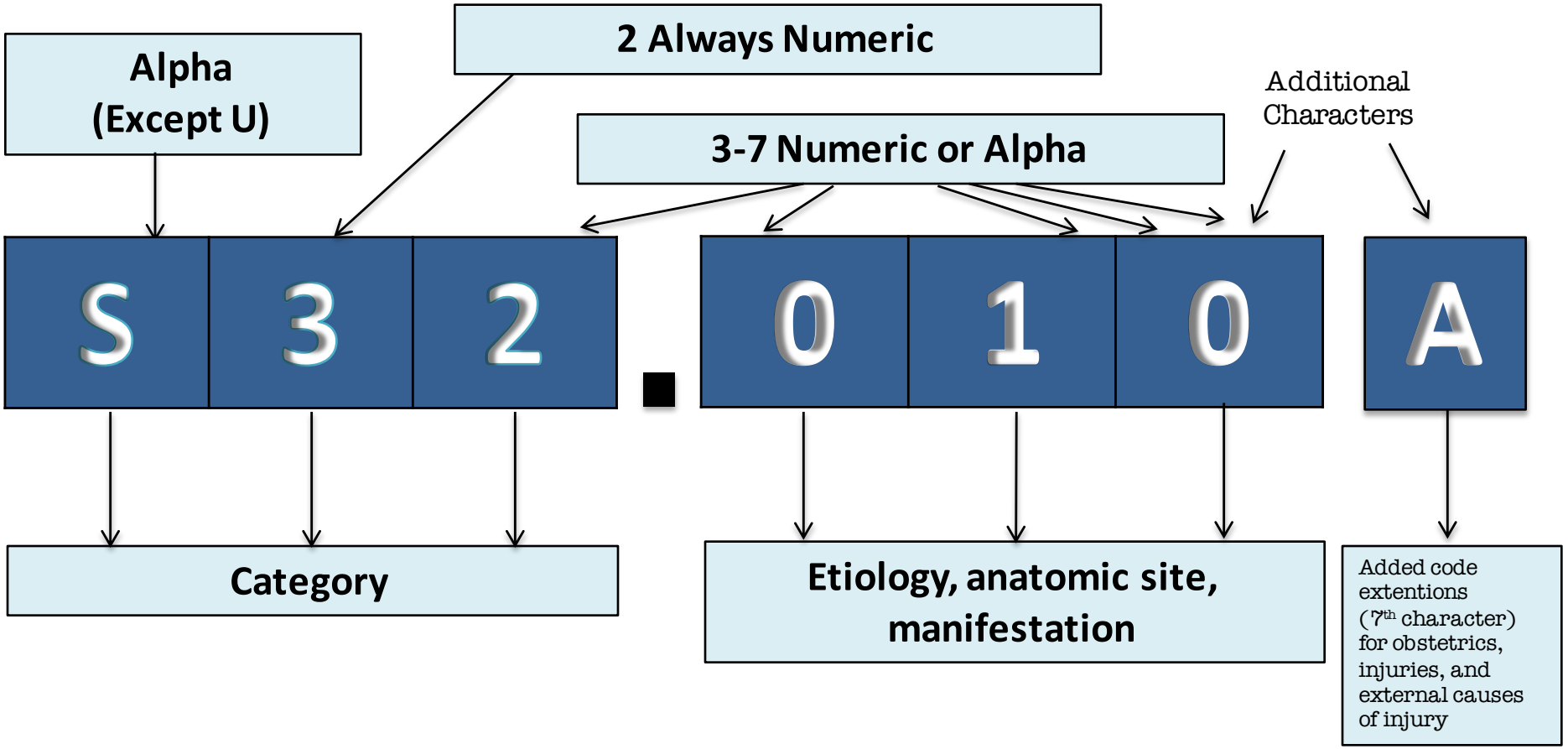
ICD-10-CM Structure – Format



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

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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.

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Source: http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/Fraud_and_Abuse.pdf

Complementary Roles, Common Goals

Physician

Coder

CDI team

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

ICD-10 Code	Description	MS DRG CC/MCC	APR DRG SOI	APR DRG ROM
I5020	Unspecified **systolic** (congestive) heart failure	CC	2	2
I5022	Chronic systolic (congestive) heart failure	CC	2	2
I5021	Acute systolic (congestive) heart failure	MCC	3	3
I5023	Acute on chronic systolic (congestive) heart failure	MCC	3	3
I509	Heart failure, **unspecified** (CHF)		2	2

Acute vs. chronic bronchitis

ICD-10 Code	Description	MS DRG CC/MCC	APR DRG SOI	APR DRG ROM
	Acute bronchitis due to*		1	1
J40	Bronchitis, not specified as acute or chronic		1	1
J410	Simple chronic bronchitis		1	1
J411	Mucopurulent chronic bronchitis		1	1

* 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

General Equivalence Mapping: *Medicine*

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ICD-9-CM to ICD-10-CM General Equivalence Mapping with Enhanced ICD-10-CM Specificity

http://www.cdimd.com
1-855-MY-CDI-MD

ICD9	ICD9 Title	ICD10	ICD-10 Title	Mapping Theory
3979	Rheumatic diseases of endocardium, valve unspecified	I088	Other rheumatic multiple valve diseases	Approximate match
3979	Rheumatic diseases of endocardium, valve unspecified	I089	Rheumatic multiple valve disease, unspecified	Approximate match
3979	Rheumatic diseases of endocardium, valve unspecified	I091	Rheumatic diseases of endocardium, valve unspecified	Approximate match
3980	Rheumatic myocarditis	I090	Rheumatic myocarditis	Exact match
39890	Rheumatic heart disease, unspecified	I099	Rheumatic heart disease, unspecified	Exact match
39891	Rheumatic heart failure (congestive)	I0981	Rheumatic heart failure	Exact match
39899	Other rheumatic heart diseases	I0989	Other specified rheumatic heart diseases	Approximate match
4010	Malignant essential hypertension	I10	Essential (primary) hypertension	Approximate match
4011	Benign essential hypertension	I10	Essential (primary) hypertension	Approximate match
4019	Unspecified essential hypertension	I10	Essential (primary) hypertension	Approximate match
40200	Malignant hypertensive heart disease without heart failure	I119	Hypertensive heart disease without heart failure	Approximate match
40201	Malignant hypertensive heart disease with heart failure	I110	Hypertensive heart disease with heart failure	Approximate match
40210	Benign hypertensive heart disease without heart failure	I119	Hypertensive heart disease without heart failure	Approximate match
40211	Benign hypertensive heart disease with heart failure	I110	Hypertensive heart disease with heart failure	Approximate match
40290	Unspecified hypertensive heart disease without heart failure	I119	Hypertensive heart disease without heart failure	Approximate match
40291	Unspecified hypertensive heart disease with heart failure	I110	Hypertensive heart disease with heart failure	Approximate match

- 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
  - -- AKI / CKD
  - -- Hypertensive encephalopathy
  - -- Hypertensive retinopathy

2015 ICD-10 HCC, MS-DRG, and APR Tables

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

- Table available from the hospital's coding department

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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.

J96.0 Acute respiratory failure
- **J96.00** Acute respiratory failure, unspecified whether with hypoxia or hypercapnia
- **J96.01** Acute respiratory failure with hypoxia
- **J96.02** Acute respiratory failure with hypercapnia

J96.1 Chronic respiratory failure
- **J96.10** Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia
- **J96.11** Chronic respiratory failure with hypoxia
- **J96.12** Chronic respiratory failure with hypercapnia

J96.2 Acute and chronic respiratory failure
Acute on chronic respiratory failure
- **J96.20** Acute and chronic respiratory failure, unspecified whether with hypoxia or hypercapnia
- **J96.21** Acute and chronic respiratory failure with hypoxia
- **J96.22** Acute and chronic respiratory failure with hypercapnia

J96.9 Respiratory failure, unspecified
- **J96.90** Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia
- **J96.91** Respiratory failure, unspecified with hypoxia
- **J96.92** Respiratory failure, unspecified with hypercapnia

***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**

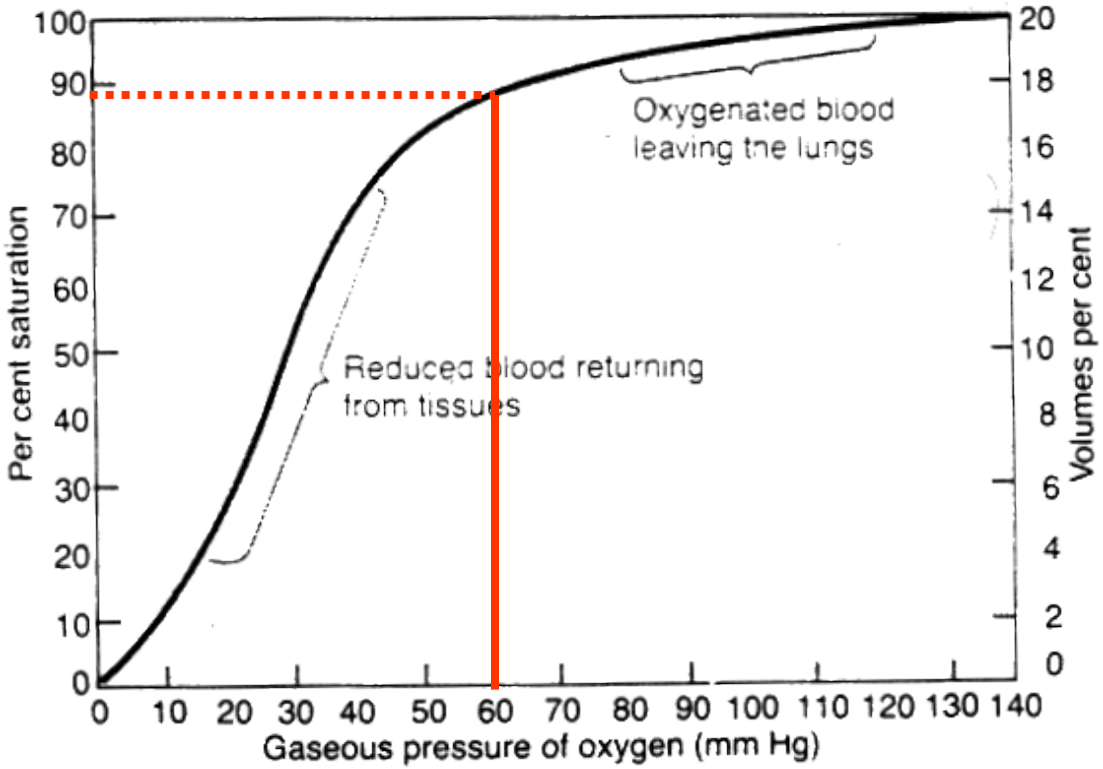
Acute Hypoxemic Respiratory Failure

- **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%

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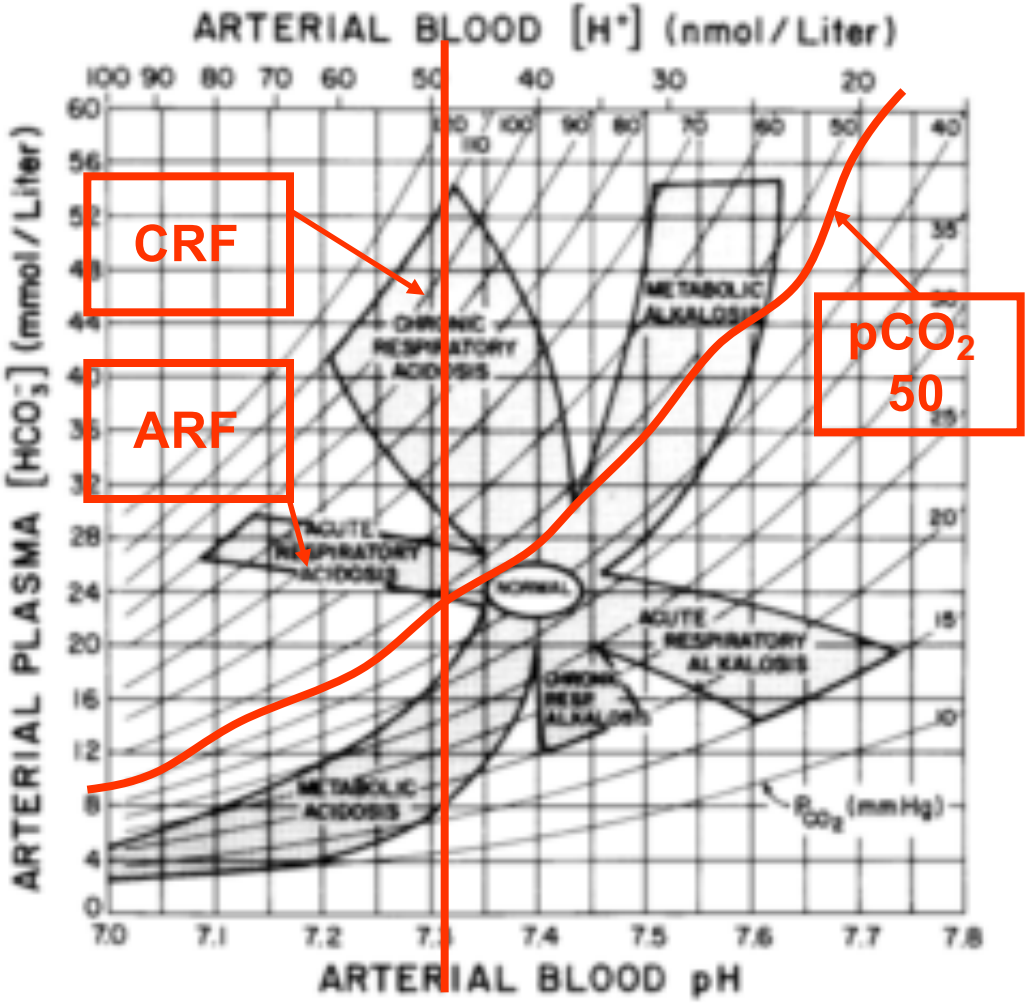
Acute Hypercapnic Respiratory Failure

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

MS-DRG	MS-DRG title	Weights
189	PULMONARY EDEMA & **RESPIRATORY FAILURE**	1.2809
190	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W MCC	1.1924
191	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W CC	0.9735
192	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W/O CC/MCC	0.7220
193	SIMPLE PNEUMONIA & PLEURISY W MCC	1.4948
194	SIMPLE PNEUMONIA & PLEURISY W CC	1.0026
195	SIMPLE PNEUMONIA & PLEURISY W/O CC/MCC	0.7037

Principal Diagnosis

The condition established after study to be chiefly responsible for occasioning the (inpatient) admission to the hospital.

MS-DRG CC/MCC Table

Not a CC (no increased weight)	CC (modest increased weight)	MCC (major increased weight)
Oxygen dependency	Chronic respiratory failure	Acute on chronic respiratory failure due to . . .
Respiratory insufficiency	Acute respiratory insufficiency	Acute respiratory failure due to . . .
Hypoxemia Hypercapnia		
Respiratory distress		

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."

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Asthma: Severities of Illness

	Component of Severity	Age (years)	Classification of Severity			
			Intermittent	Persistent		
				Mild	Moderate	Severe
Impairment	Symptoms	All	<= 2 day/week	> 2 days/week but not daily	Daily	Throughout the day
	Night Awakenings	0-4	0	1-2x/month	3-4x/month	>1x/week
		>=5	<= 2x/month	3-4x/month	> 1x/week but not nightly	Often 7x/week
	SABA use for sympton control	All	<=2 days/week	> 2 days/week but not daily	Daily	Several times a day
	Interference with normal activity	All	None	Minor limitation	Some limitation	Extremely limited
	Lung Function:					
	FEV1 (predicted) or PEF (personal best)	>=5	Normal FEV1 btwn exacerbations >80%	Normal FEV1 btwn exacerbations >80%	Normal FEV1 btwn exacerbations >60-80%	Normal FEV1 btwn exacerbations <60%
	FEV1/FVC	5-11	>85%	>80%	75-80%	<60%
		>=12	Normal	Normal	Reduced 5%	Reduced > 5%
Risk	Exacerbations requiring oral corticosteroids	0-4	<=1x/year	≥ 2x in 6 months or ≥ 4 wheezing episodes/year lasting > 1 day AND risk factors for persistent asthma		
		5-11		≥ 2x/year		
		>=12		Consider severity and interval since last exacerbation. Frequency and severity may fluctuate over time for patients in any severity category. Relative annual risk of exacerbations may be related to FEV1.		

Source: UMichHS Asthma Quality Improvement Steering Committee

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ICD-10 Codes: Additional Information

ICD- 9

493.90 – Asthma, unspecified

- 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

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?

ICD-10 Code	Description	MS-DRG CC/MCC	APR-DRG SOI	APR-DRG ROM
F17210	Nicotine dependence, cigarettes, uncomplicated		1	1
F17211	Nicotine dependence, cigarettes, in remission		1	1
F17213	Nicotine dependence, cigarettes, with **withdrawal**	CC	1	1
F17218	Nicotine dependence, cigarettes, with other nicotine-induced disorders		1	1
F17219	Nicotine dependence, cigarettes, with unspecified nicotine-induced disorders		1	1

3rd 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:

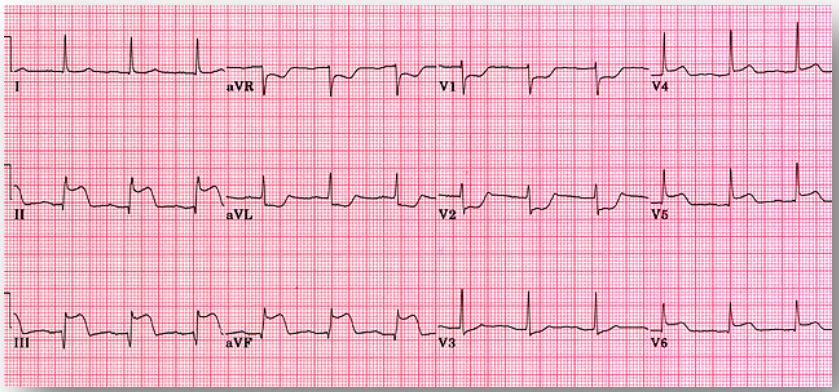
- Detection of a rise and/or fall of cardiac biomarker values [preferably cardiac troponin (cTn)] with at least one value above the 99th percentile upper reference limit (URL) and at least one of the following:
  - Symptoms of ischemia
  - New or presumed new significant ST-segment—T wave (ST—T) changes 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

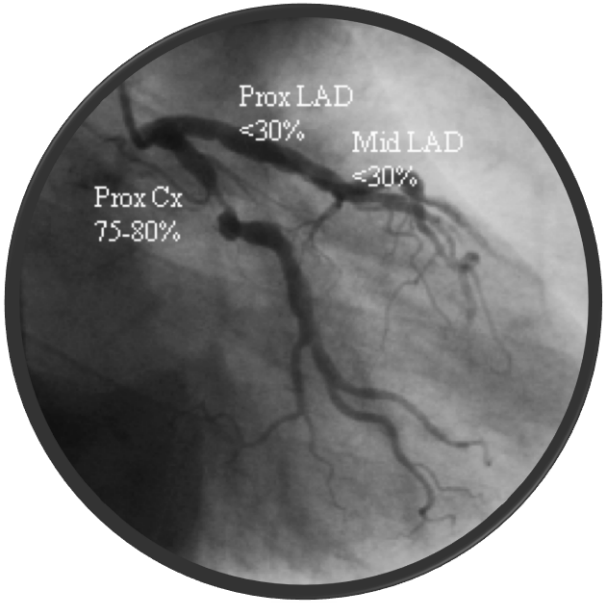
- Nature
  - ST elevation (default) or
  - Non-ST elevation (not default)
- Regional (by ECG)
  - Anterior
  - Posterior
  - Inferior
  - Lateral



"Acute inferior ST elevation MI"

Cardiologist

- Vessel Nature
  - Native artery
  - Graft
- Vessel involved



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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

ICD-10-CM

Types of MI

- STEMI/Non-STEMI
- Region
  - Anterior, posterior, inferior, lateral
- Vascular anatomy
  - LM, LAD, L circ, RCA
  - Other artery of the anterior wall, of the inferior wall

3rd Universal Definition

Types of MI	
1	Spontaneous MI
2	MI due to an ischemic imbalance
3	MI resulting in death when biomarkers are not available
4a	MI related to PCI
4b	MI related to stent thrombosis
5	MI related to CABG

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 thombus 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.

Alpert JS, et al. *The American Journal of Medicine* (2014) 127, 105–108

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

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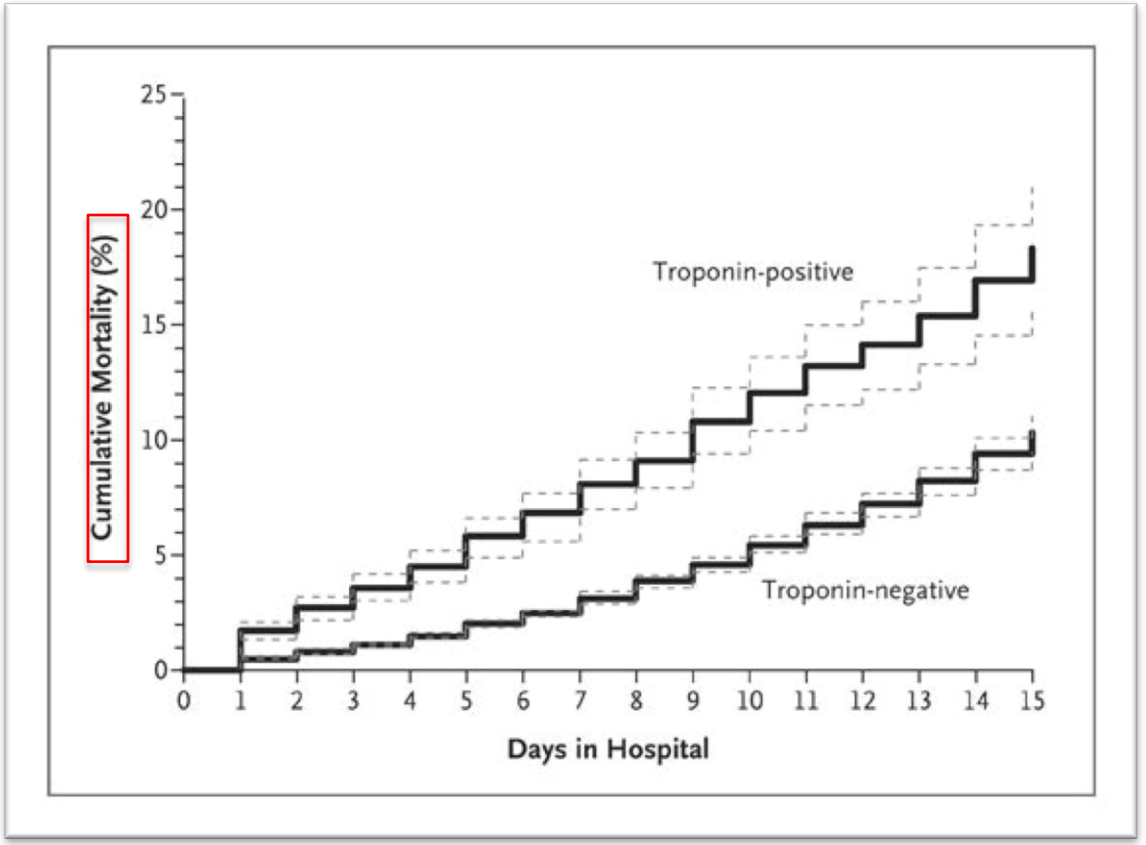
Troponin Elevation ("leak")
Not (or likely *Not*) Related to Ischemia

- 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 99th 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?



Peacock WF IV et al. N Engl J Med 2008;358:2117-2126.

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STEMI – Default

I21.3 ST elevation (STEMI) myocardial infarction of unspecified site
Acute transmural myocardial infarction of unspecified site
Myocardial infarction (acute) NOS
Transmural (Q wave) myocardial infarction NOS

I21.4 Non-ST elevation (NSTEMI) myocardial infarction
Acute subendocardial myocardial infarction
Non-Q wave myocardial infarction NOS
Nontransmural myocardial infarction NOS

- 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 ≥0.3 mg/dl (≥26.5 µmol/l) within 48 hours; or
- Increase in SCr to ≥1.5 times baseline, which is known or presumed to have occurred within the prior 7 days; or
- Urine volume <0.5 ml/kg/h for 6 hours.

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

Table 2 | Staging of AKI

Stage	Serum creatinine	Urine output
1	1.5–1.9 times baseline OR ≥0.3 mg/dl (≥26.5 µmol/l) increase	<0.5 ml/kg/h for 6–12 hours
2	2.0–2.9 times baseline	<0.5 ml/kg/h for ≥12 hours
3	3.0 times baseline OR Increase in serum creatinine to ≥4.0 mg/dl (≥353.6 µmol/l) OR Initiation of renal replacement therapy OR, In patients <18 years, decrease in eGFR to <35 ml/min per 1.73 m^2	<0.3 ml/kg/h for ≥24 hours OR Anuria for ≥12 hours

http://www.kdigo.org/clinical_practice_guidelines/pdf/KDIGO%20AKI%20Guideline.pdf
Published 2012

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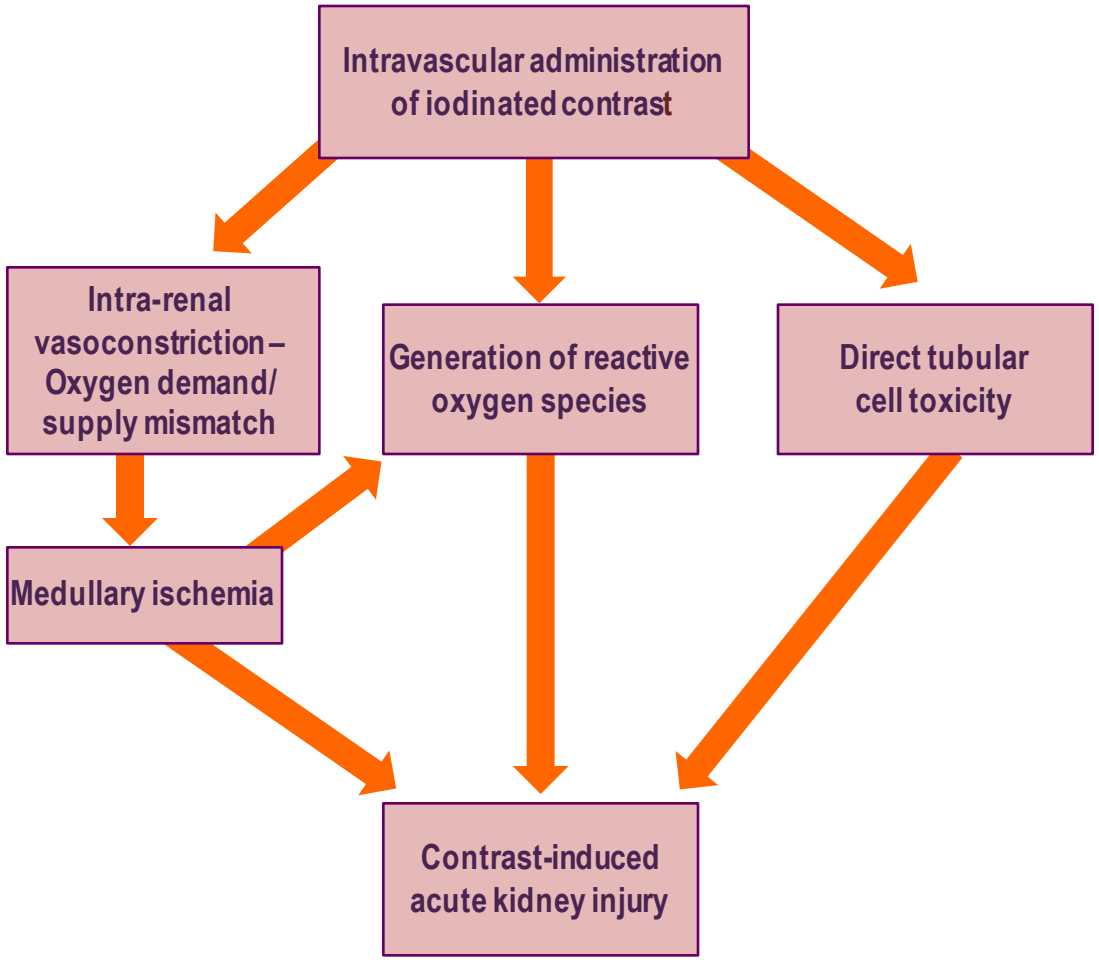
Acute Renal Injury (Failure)

ICD-9 Code	Description	MS DRG CC/MCC
584	**Acute kidney failure**	MCC
584.5	• With lesion of tubular necrosis (ATN)	MCC
584.6	• With lesion of renal cortical necrosis	MCC
584.7	• With lesion of renal medullary [papillary] necrosis	MCC
584.8	• With other specified pathological lesion in kidney	CC
584.9	• Acute kidney failure NOS	CC

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

Term	E-GFR	Usual serum Cr	
• Chronic renal insufficiency/failure NOS			Not a CC
• CKD Stage 1	> 90	<0.9	
• CKD Stage 2	60–89	1.0–1.3	
• CKD Stage 3	30–59	1.4–2.5	
• CKD Stage 4	15–29	2.5–4.5	CC
• CKD Stage 5	< 15	> 4.5	
• ESRD – Administrative term – irreversible renal disease requiring dialysis or transplant			MCC

* Serum Cr for a 170 lb white male, age 65

Altered Mental Status MUSIC

M **Manifestation**

Dementia, delirium, psychosis, stupor, coma
Unresponsive does not have a code

U **Underlying Cause**

Various encephalopathies – other structural diseases of the brain
Stroke, TIA, Alzheimer's disease, Lewy-body dementia, encephalitis

S **Severity or Specificity**

Correlates with the severity of the manifestation
Acute or chronic (acute delirium is a CC; delirium NOS is not)

I **Instigating or precipitating causes**

Drug toxicity (declare if it is an overdose or if not properly taken)
Cerebral embolus due to atrial fibrillation

C **Consequences or complications**

Acute respiratory failure
SIADH leading to hyponatremia resulting in a metabolic encephalopathy

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

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

- **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

Source: Posner, et al. Plum and Posner's Diagnosis of Stupor and Coma. 2007.

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
www.ninds.nih.gov/disorders/encephalopathy/encephalopathy.htm

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.

Description	HCC	MS-DRG CC/MCC	APR-DRG SOI	APR-DRG ROM
Toxic/Metabolic Encephalopathies	No relative weight	MCC	3	4

Encephalopathy
Multiple Options in ICD-10-CM

Encephalopathy (acute) G93.40
- acute necrotizing hemorrhagic G04.30
- - postimmunization G04.32
- - postinfectious G04.31
- - specified 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
- hyperbilirubinemic, 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
- - metabolic 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

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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

Glasgow Coma Scale			
Score	**Eye opening**	**Verbal response**	**Motor response**
1	None	None	None
2	To pain	Vocal but not verbal	Extension
3	To voice	Verbal but not conversational	Flexion
4	Spontaneous	Conversational but disoriented	Withdraws from pain
5	—	Oriented	Localizes pain
6	—	—	Obeys commands

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

Glasgow Coma Scale

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

- When using only the final GCS tally, your patient's severity of illness is not credited

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AHA/ASA Scientific Statement

(*Stroke*. 2009;40:2276-2293.)

Definition and Evaluation of Transient Ischemic Attack

A Scientific Statement for Healthcare Professionals From the American Heart Association/American Stroke Association Stroke Council; Council on Cardiovascular Surgery and Anesthesia; Council on Cardiovascular Radiology and Intervention; Council on Cardiovascular Nursing; and the Interdisciplinary Council on Peripheral Vascular Disease

The American Academy of Neurology affirms the value of this statement as an educational tool for neurologists.

- **"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

Table 3. Frequency of DWI Abnormality in Patients With Transient Neurological Episodes of Different Durations: Pooled Data From 10 MRI Studies Enrolling 818 Patients[45]

Duration of Symptoms, h	DWI Hyperintensity
0–1	33.6
1–2	29.5
2–3	39.5
3–6	30.0
6–12	51.1
12–18	50.0
18–24	49.5

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

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"Caused by," "due to," "resulting in"

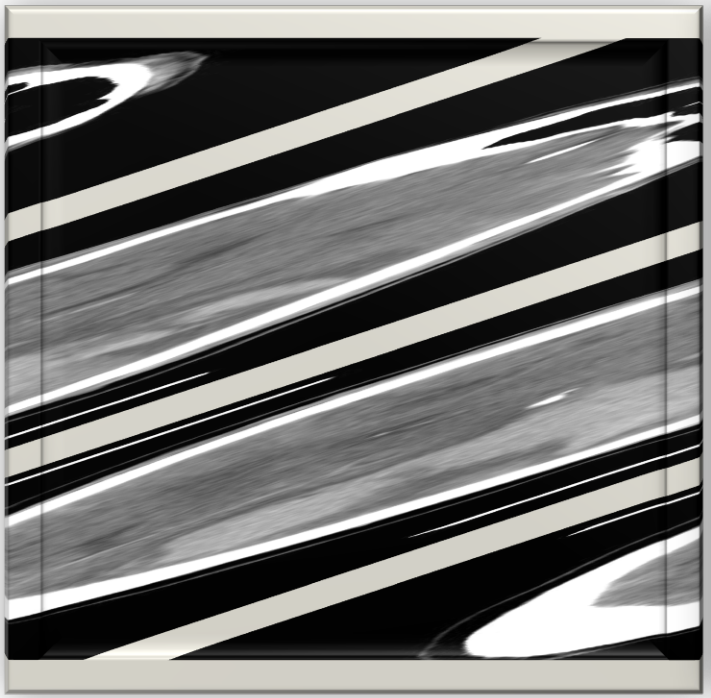
t-PA Administration

- 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:

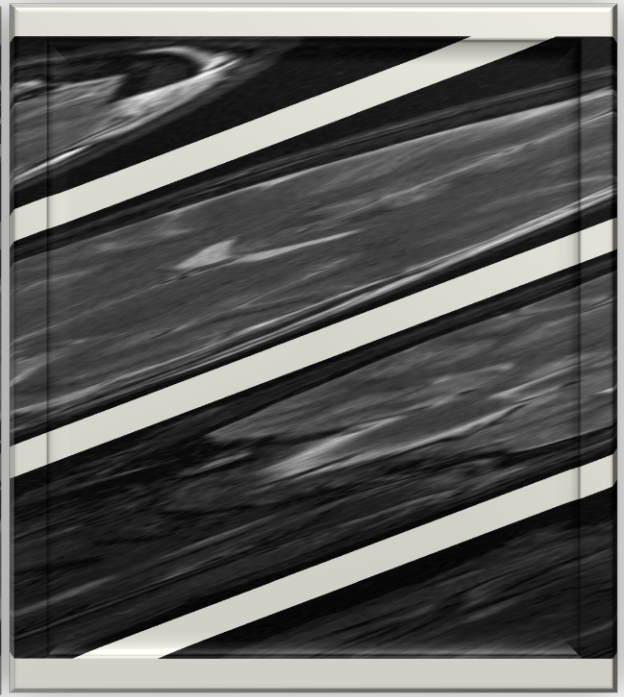
MS-DRG	MS-DRG title	Weights
061	ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/ MCC	2.9568
062	ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/ CC	1.9479
063	ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/O CC/MCC	1.5251

Cerebral Edema – MCC
Cerebral Herniation *or* Compression – MCC

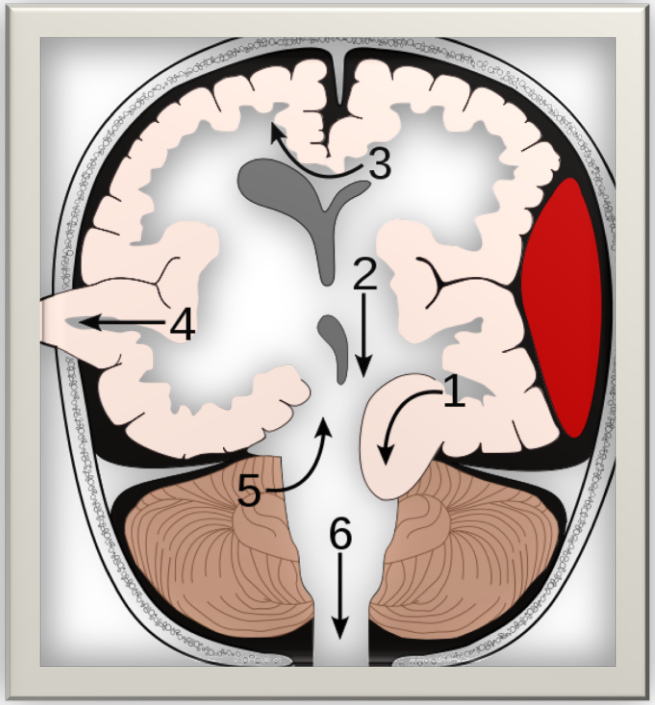
- Neither clinically significant edema nor herniation are integral to strokes. When present (and documented), each may be coded additionally.
- "**Midline shift**" has no code, no credit: ~~**Midline shift**~~



http://en.wikipedia.org/wiki/File:Subfalcine-herniation-001.jpg



http://en.wikipedia.org/wiki/File:Brain_herniation_MRI.jpg



http://commons.wikimedia.org/wiki/File:Brain_herniation_types-2.svg

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Stroke Consequences Serve as CCs/MCCs

Description	MS DRG CC/MCC	APR DRG SOI
Intracerebral hemorrhage	MCC	4
Cerebral herniation	MCC	4
Coma	MCC	4
Acute respiratory failure	MCC	4
Cerebral edema	MCC	3

Description	MS DRG CC/MCC	APR DRG SOI
SIADH	CC	3
Hemiparesis (“weakness” now codable)	CC	2
Aphasia	CC	2

Other CC/MCCs

CCs

- TIAs
- Reflex sympathetic dystrophy
- Transverse myelitis
- Normal-pressure hydrocephalus
- Communicating hydrocephalus
- Secondary Parkinsonism
- Autonomic neuropathies
- Hemiparesis as a late effect of stroke
- Toxic myopathies

MCCs

- Cerebral infarction
- Quadriplegia
- Encephalopathy
  - Metabolic encephalopathy
  - Toxic encephalopathy
  - Unspecified
- Compression of brain
- Cerebral edema
- Myasthenia gravis with (acute) exacerbation
- Meningitis

MS-DRG CC/MCC Table

Not a CC (no increased weight)	CC (modest increased weight)	MCC (major increased weight)
Right sided weakness; Monoparesis	Hemiparesis; Weakness *due to* stroke	
Brain stem stroke syndrome	TIA; MCA stroke syndrome	Stroke
Midline shift		Cerebral herniation; Cerebral edema

MS-DRG CC/MCC Table

Not a CC (no increased weight)	CC (modest increased weight)	MCC (major increased weight)
Poorly controlled seizures	Poorly controlled seizure disorder	Generalized status epilepticus
Peripheral neuropathy	Autonomic peripheral neuropathy	

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

ICD-10 Code	Description	HCC RW	MS-DRG CC/MCC	APR-DRG SOI	APR-DRG ROM
R532	Functional Quadriplegia	1.234	MCC	3	1

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Functional Quadriplegia vs. "Bedridden" or "Immobility"

DRG	Description	RW	Reimb	G LOS
486	Simple Pneumonia w/o CC/MCC	0.7044	$6020.22	2.9
193	Simple Pneumonia w/ MCC • (Functional quadriplegia is the MCC)	1.4491	$11201.12	4.9

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

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

Diabetes Mellitus Descriptors	
E10.-	Type 1 diabetes mellitus
E11.-	Type 2 diabetes mellitus
E09.-	Drug or chemical induced diabetes mellitus
O24.4-	Gestational diabetes
P70.2	Neonatal diabetes mellitus
E13.-	Postpancreatectomy diabetes mellitus
E13.-	Postprocedural diabetes mellitus
E13.-	Secondary diabetes mellitus NEC
E08-	Diabetes Mellitus due to Underlying Condition • Details on next slide

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"Caused by," "due to," "resulting in"

Diabetes Mellitus due to Underlying Condition	
P35.0	Congenital rubella
E24.-	Cushing's syndrome
E84.-	Cystic fibrosis
C00-C96	Malignant neoplasm
E40-E46	Malnutrition
K85-K86.-	Pancreatitis and other diseases of the pancreas

Additional ICD-10-CM code for use of insulin

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"Caused by," "due to," "resulting in"

ICD-10 Change: Diabetes

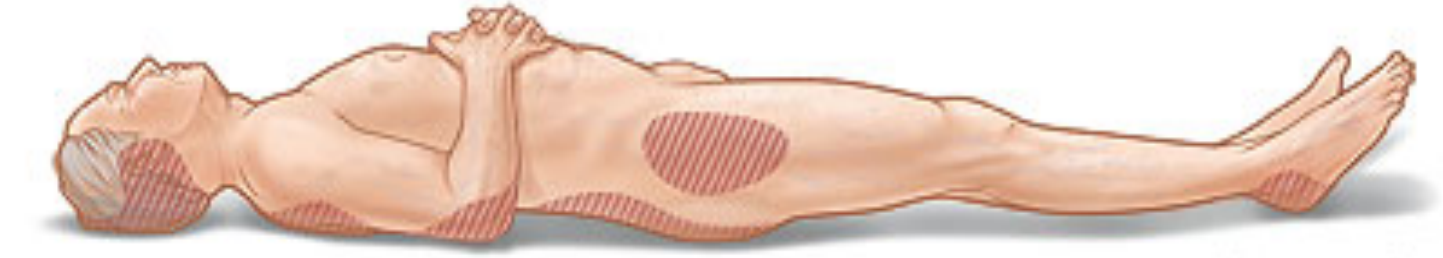
- Diabetes
  - The term "uncontrolled" alone is no longer adequate
    - Physicians must note whether the lack of control is
      - Hyperglycemia
      - Hypoglycemia
    - "Out of control," "inadequately," or "poorly controlled" always codes to DM, by type, with *hyperglycemia*
    - Even if your patient 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

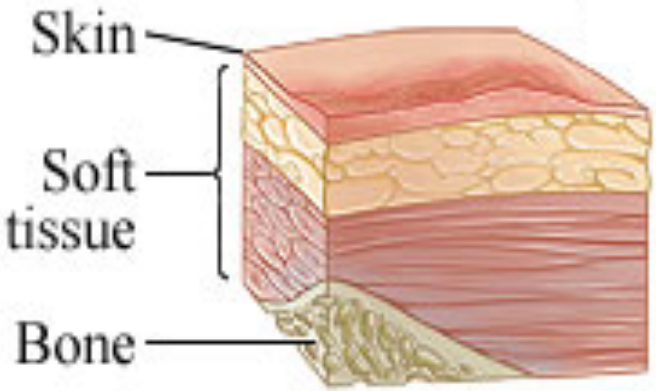
ICD-10 Changes: Diabetes

- 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 periodonal disease

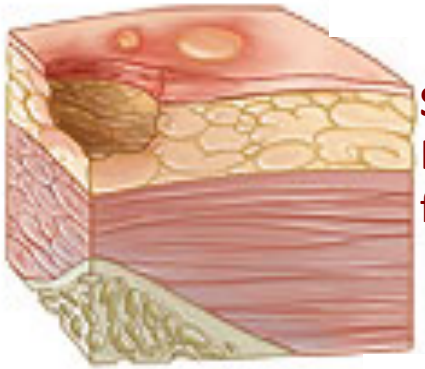
"Caused by," "due to," "resulting in"

Pressure Sores



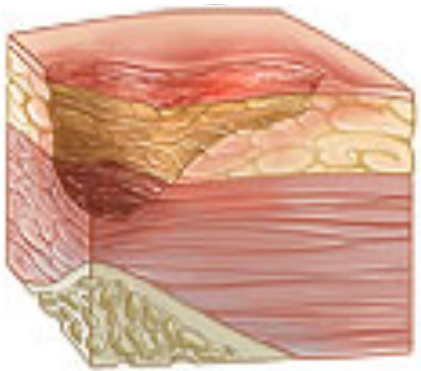


Stage I: Non-blanching erythema

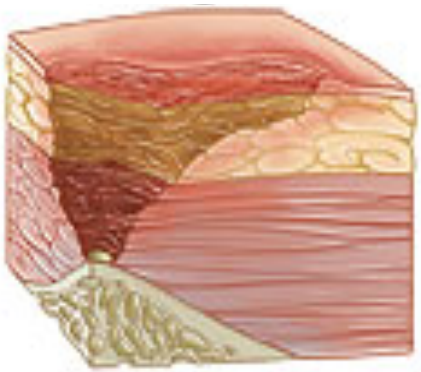


Stage 2: Exposed fat

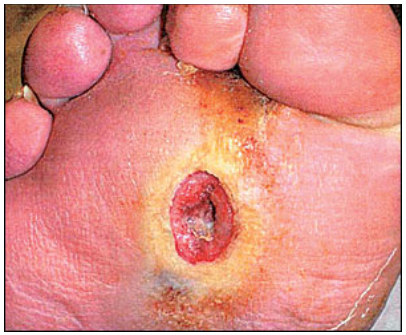
Stage 3: Muscle necrosis

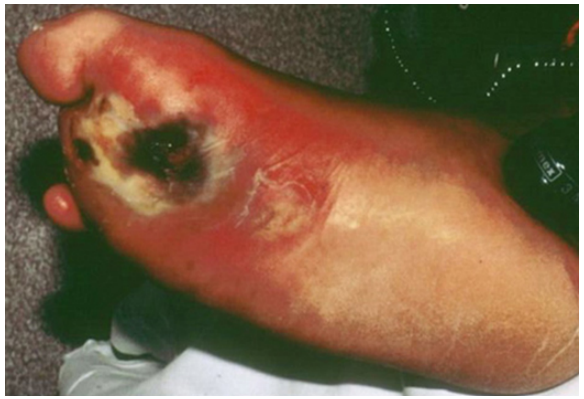


Stage 4: Bone necrosis



New in ICD-10-CM
Chronic Non-Pressure Ulcer Codes





L97111	Non-pressure chronic ulcer of right thigh limited to breakdown of skin
L97112	Non-pressure chronic ulcer of right thigh with fat layer exposed
L97113	Non-pressure chronic ulcer of right thigh with necrosis of muscle
L97114	Non-pressure chronic ulcer of right thigh with necrosis of bone
L97119	Non-pressure chronic ulcer of right thigh with unspecified severity

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

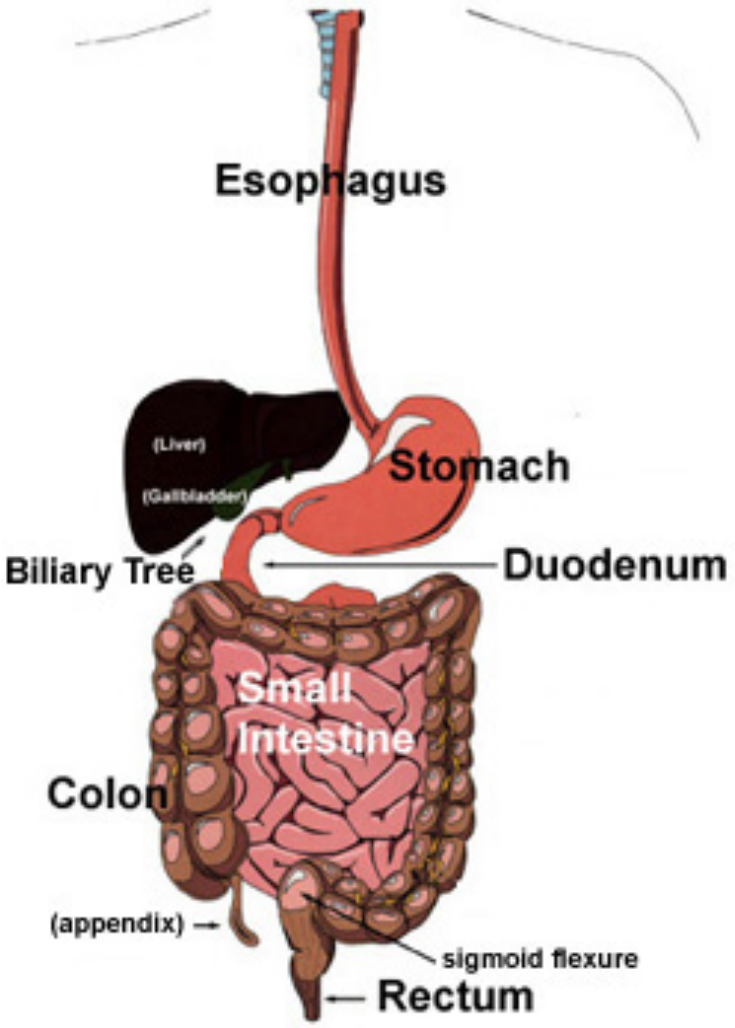
Gastrointestinal Hemorrhage

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

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**.

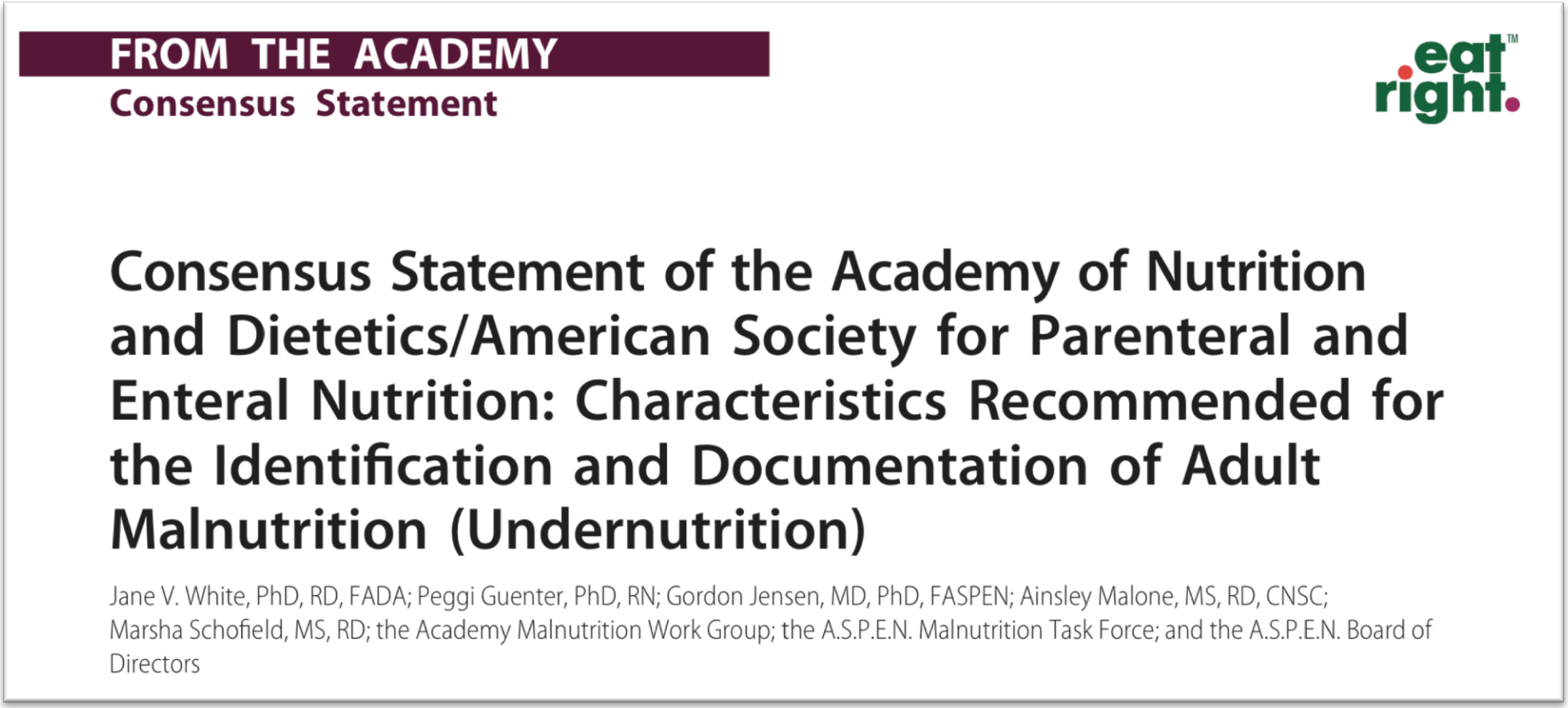
Gastrointestinal Hemorrhage



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

Malnutrition Assessment
Game Changer Source: May 2012



FROM THE ACADEMY

Consensus Statement

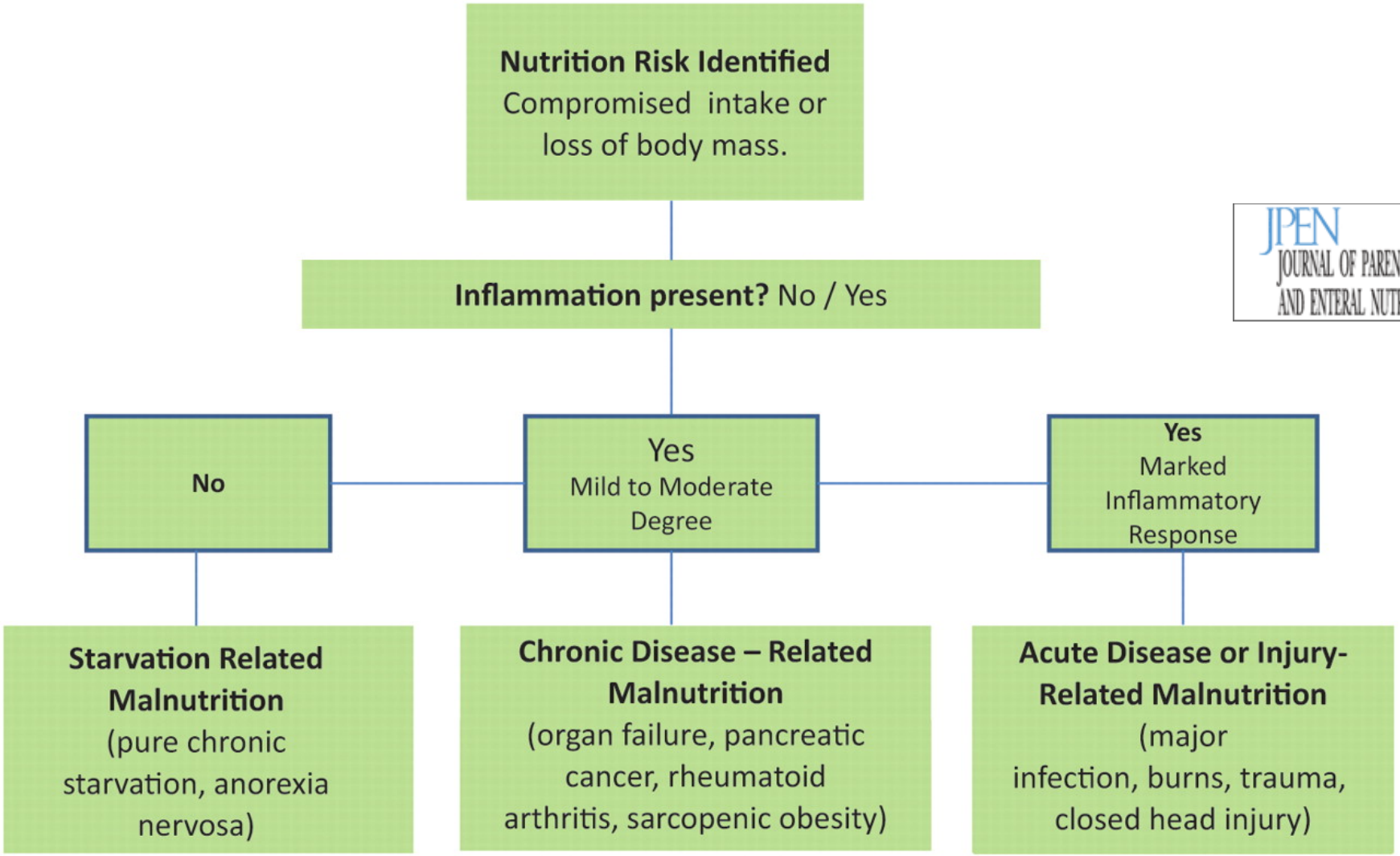
eat right.™

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



JPEN JOURNAL OF PARENTERAL AND ENTERAL NUTRITION

Source: White J V et al., *JPEN J Parenter Enteral Nutr,* 2012;36:275-283

CDIMD PHYSICIAN CHAMPIONS

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

MS-DRG CC/MCC Table

Not a CC (no increased weight)	CC (modest increased weight)	MCC (major increased weight)
Abnormal weight loss	Mild malnutrition Moderate malnutrition	Severe malnutrition
Failure to thrive	Cachexia	
Anorexia	Anorexia nervosa	
Underweight	BMI ≤ 19	
Obesity Morbid obesity due to excess calories	BMI ≥ 40 Morbid obesity **with alveolar hypoventilation**	

Malnutrition Relative Weights

Description	HCC #	HCC Comm RW	HCC Inst RW	MS-DRG CC/MCC
Severe protein– calorie malnutrition	21	0.713	0.399	MCC
Moderate protein calorie malnutrition	21	0.713	0.399	CC
Mild protein calorie malnutrition	21	0.713	0.399	CC
Unspecified protein-calorie malnutrition	21	0.713	0.399	CC

Comm = community patient
Inst = institutionalized (e.g., nursing home)

Center for Medicare & Medicaid Services' Game Plan

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

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

Specifications Manual for National Hospital Inpatient Quality Measures
Discharges 01-01-13 (1Q13) through 12-31-13 (4Q13) 10-9

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

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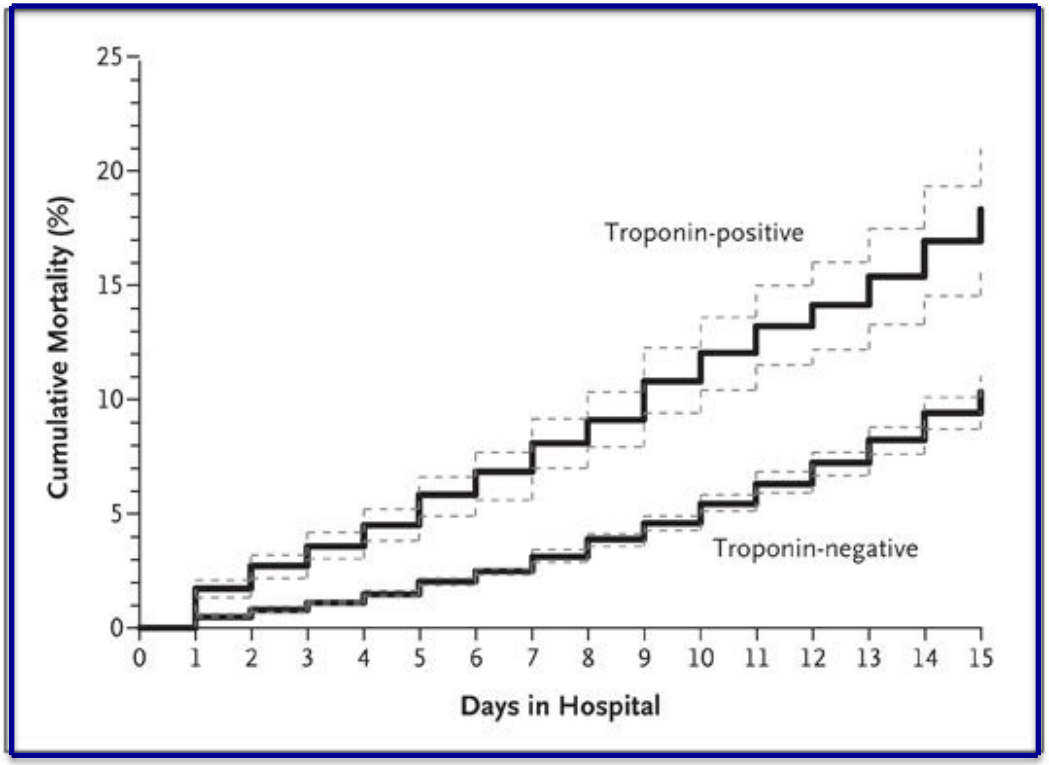
Impact of "Troponin Leaks" on Heart Failure Mortality

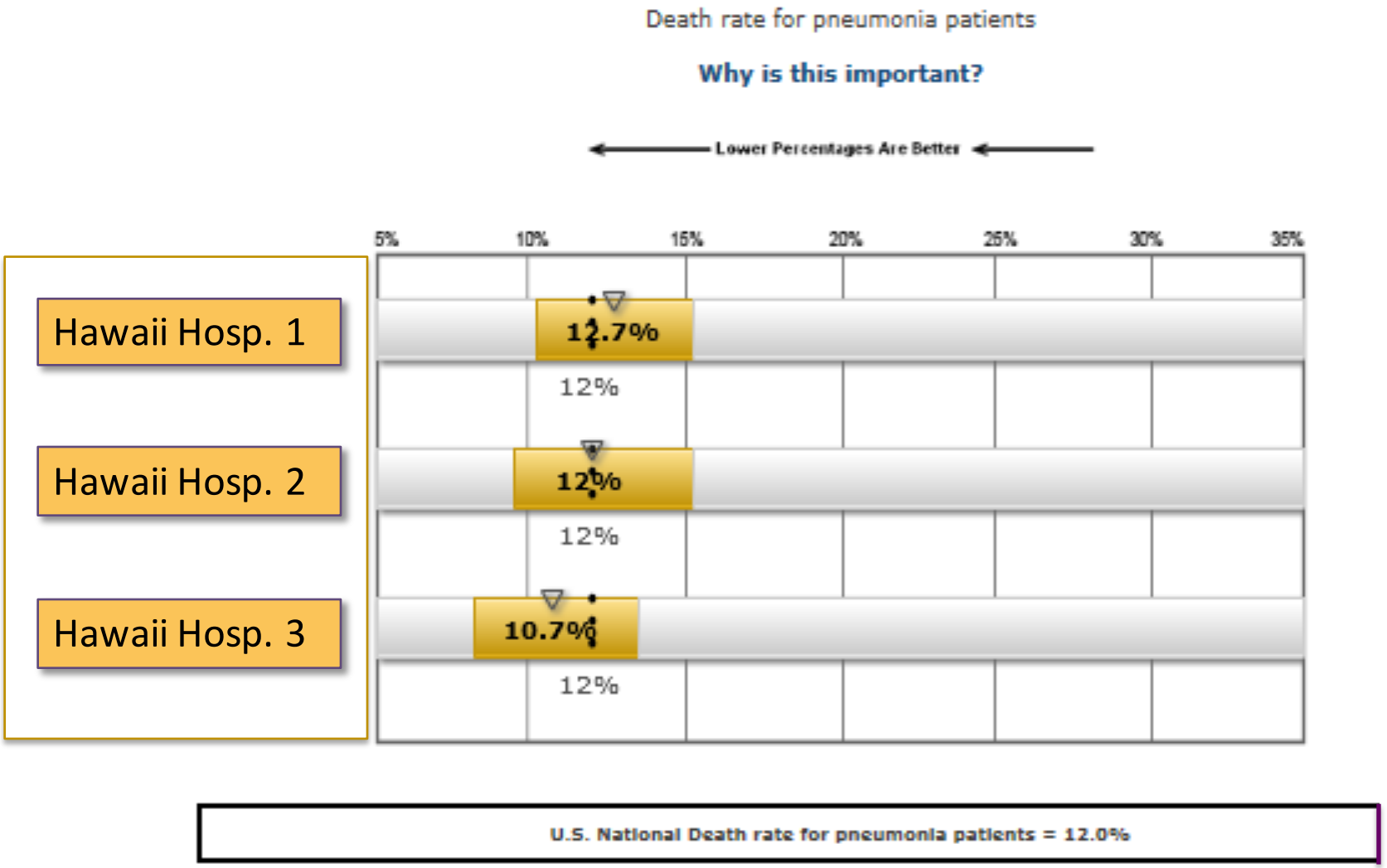


Peacock WF IV et al. N Engl J Med 2008;358:2117-2126

"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



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
482.9	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**

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Readmission Penalties

Hospital	FY2013	FY2014	FY2015
Citrus Valley Hospital	0.03%	0.14%	0.25%
Pomona Valley Hospital Medical Center	0.06%	0.25%	0.41%
UCSF	0.10%	0.02%	0.23%
UCLA - Reagan	0.18%	0.19%	0.24%
USC - Keck	0.08%	0.06%	0.19%
UC San Diego Medical Center	0.21%	0.27%	0.21%
Good Samaritan, Los Angeles	0.67%	0.35%	0.39%
Brigham & Women's	0.55%	0.30%	0.27%
Pennsylvania Hospital (U Pa)	1.00%	0.35%	3.00%
Vanderbilt	0.61%	0.11%	0.10%

Center for Medicare & Medicaid Services' Game Plan

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

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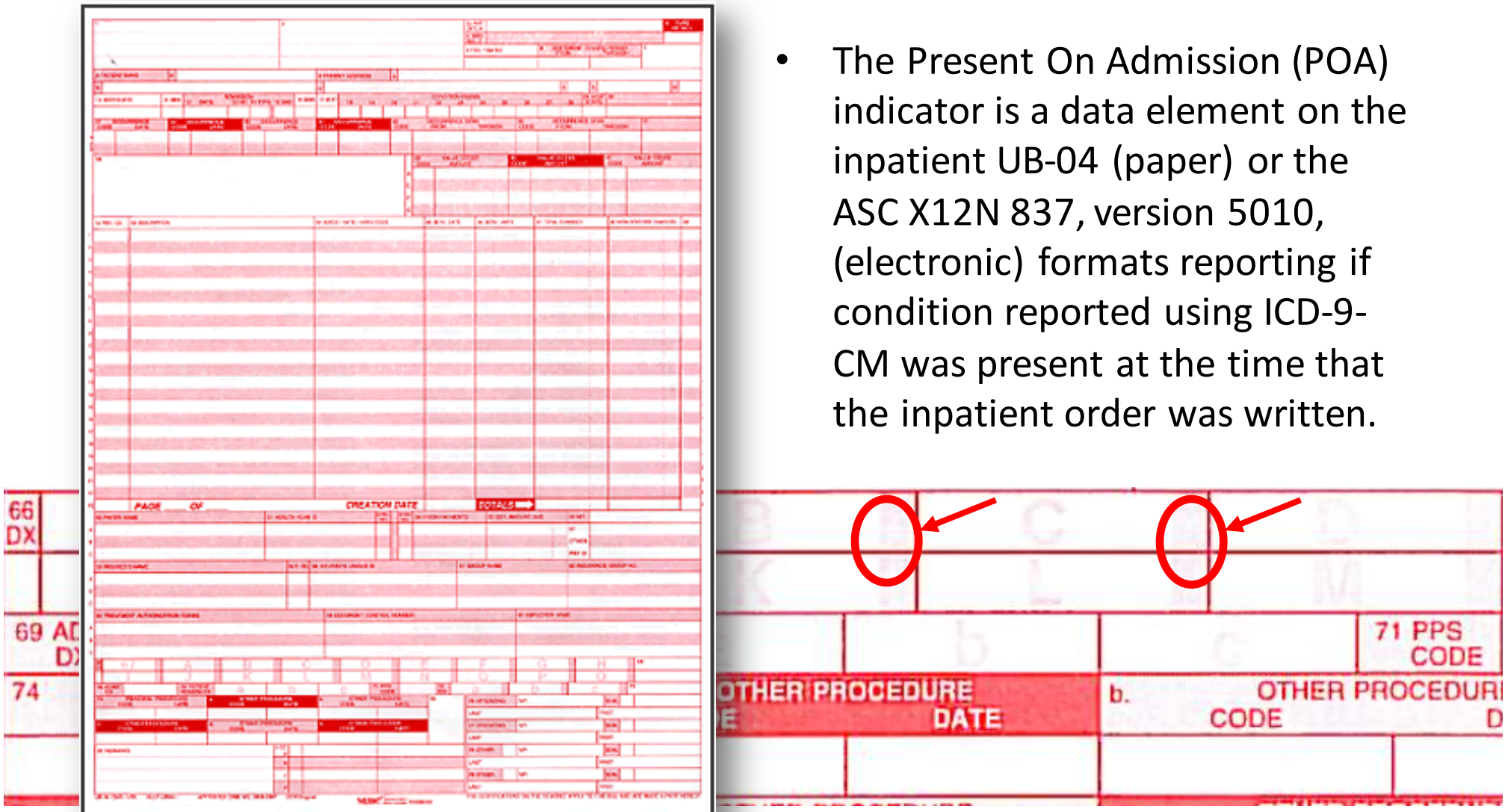
ICD-9-CM and ICD-10-CM codes determine how payments are adjusted

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	
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

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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

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One mnemonic = 70,000 codes

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.

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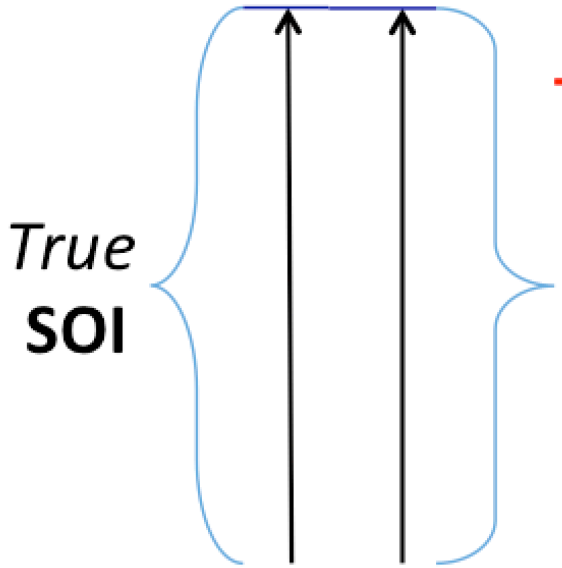
Attribution of Credit

- ~~Lawyer: "If it is not documented, you didn't do it."~~
- ~~Payer: "If it is not documented, you didn't diagnose it."~~
- CDIMD: "If it is not documented, you cannot get credit for it."



Documented, Coded, & Reported **SOI**

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."

QUEEN OF THE VALLEY HOSPITAL
An affiliate of Citrus Valley Health Partners

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Appendix

CMS QUALITY & RESOURCE USE REPORT (QRUR)

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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

Quality Resource Use Report (QRUR) Measures during Development

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 deliveredhttps://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

portal.cms.gov

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

PQRS Measure Number	Clinical Condition and PQRS Measure Specifications for PQRS clinical measures are posted at http://www.cms.gov/PQRS/Downloads/2010_PQRI_MeasuresList_111309.pdf http://www.cms.gov/PQRI/downloads/2010PQRIMeasuresGroupsSpecsManualandReleaseNotes_121809_2.zip	Physician PQRS Performance			
		YOU		Physicians in Iowa, Kansas, Missouri, and Nebraska Participating in PQRS	
		Number of Your Medicare Patients for Whom This Service Was Indicated	Percentage of Medicare Patients Who Received the Service	Number of Participating Physicians Reporting Cases for the Measure	Percentage of Medicare Patients Who Received the Service
Chronic Obstructive Pulmonary Disease (COPD)					
51	Spirometry Evaluation	#	%	#	%
52	Bronchodilator Therapy				
Diabetes					
1	Hemoglobin A1c Poor Control				
2	Low-Density Lipoprotein Control				
3	High Blood Pressure Control				
117	Dilated Eye Exam in Diabetic Patient				

Sample Cost Report

portal.cms.gov

.	.	TIN's number of eligible cases (A)	TIN's risk-adjusted per capita cost (B)	Benchmark (mean) (C)	Standard deviation (D)	Standardized score (E)	Included in domain score (F)
(1)	Per Capita Costs for All Attributed Beneficiaries	207	$17,795	$10,370	$1,864	3.98	Yes
(2)	Domain Score: Per Capita Costs for All Attributed Beneficiaries (from Row 1)					3.98	
(3)	Per Capita Costs for Attributed Beneficiaries with Diabetes	84	$28,153	$14,946	$2,848	4.64	Yes
(4)	Per Capita Costs for Attributed Beneficiaries with COPD	18	$26,240	$24,270	$4,934	0.40	No
(5)	Per Capita Costs for Attributed Beneficiaries with CAD	4	$22,140	$17,333	$3,384	1.42	No
(6)	Per Capita Costs for Attributed Beneficiaries with Heart Failure	54	$30,157	$26,190	$5,537	0.72	Yes
(7)	Domain Score: Per Capita Costs for Attributed Beneficiaries with Specific Conditions					2.68	
(8)	Average Domain Score			0.16	2.16	3.33	
(9)	Standardized Cost Composite Score					1.47*	
(10)	Average Cost Domain Score Mean & S.D. Across Peers (Use for TINs with 25–99 EPs)			0.16	2.16		
(11)	Average Cost Domain Score Mean & S.D. Across Peers (Use for TINs with 100+ EPs)			0.10	1.80		

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

Bundled Payments for Care Improvement (BPCI) Initiative: General Information

Share

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

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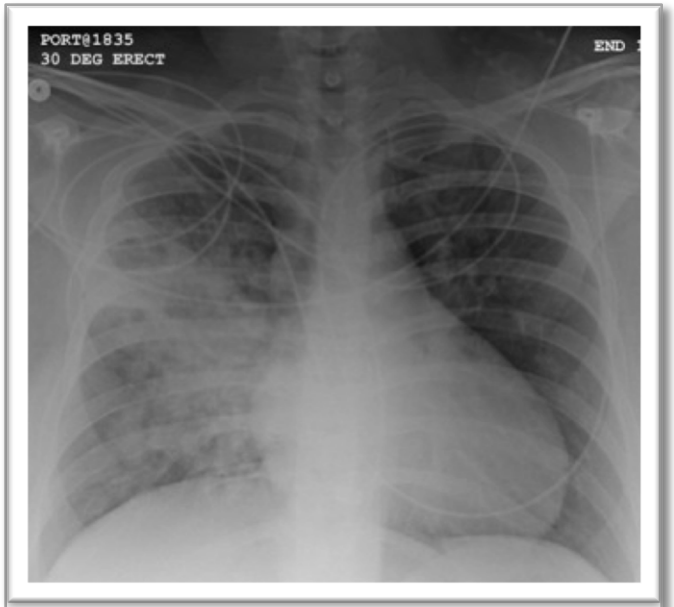
Medicare Payments in a Bundled Payment Environment

- Unbundled (separate checks):
  - Hospital
  - Emergency physician
  - Admitting physician
  - Radiologist
  - Surgeon
  - Consultants . . .
  - Pathologist
  - Home Health Service

- Bundled (one check)
  - Hospital, Accountable Care Organization, or other organization
    - Distributed to participants according to a negotiated agreement
  - ICD-10-CM codes govern the Diagnosis-Related Group (DRG) that determine the size of the pot from which funds are distributed
  - Also covers first 30 days of care post-discharge
    - Outpatient visits: MD, HHN
    - Readmissions*!!!*

Bundled Payments: Pneumonia

MS-DRG	MS-DRG Title		Wgts	Bundle
871	SEPTICEMIA OR SEVERE **SEPSIS** W/O MV 96+ HOURS		**1.8527**	**$27,791**
177	RESPIRATORY INFECTIONS & INFLAMMATIONS	**W MCC**	1.9934	$29,901
178		**W CC**	1.3955	$20,933
179		**W/O CC/MCC**	**0.9741**	**$14,612**
193	SIMPLE PNEUMONIA & PLEURISY	**W MCC**	1.4550	$21,825
194		**W CC**	0.9771	$14,657
195		**W/O CC/MCC**	**0.6997**	**$10,496**



HCAP groups to Simple Pneumonia DRG

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

CLINICAL DOCUMENTATION INTEGRITY

CDIMD
PHYSICIAN CHAMPIONS

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.

Source: http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/Fraud_and_Abuse.pdf

CDI Team Composition

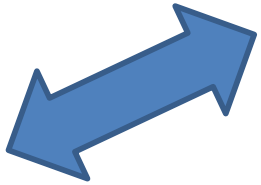
- **Providers**
  - Primary agents for condition or treatment definition, diagnosis, and documentation
- **Coders**
  - Content experts and final authorities on what codes are submitted
  - Usually tasked with post-discharge (retrospective) query
- **Concurrent (pre-discharge) reviewers**
  - Nurses 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

Source: AHIMA. "Managing an Effective Query Process." *Journal of AHIMA* 79, No. 10 (October 2008): 83–88.

Examples of Situations Requiring CDI

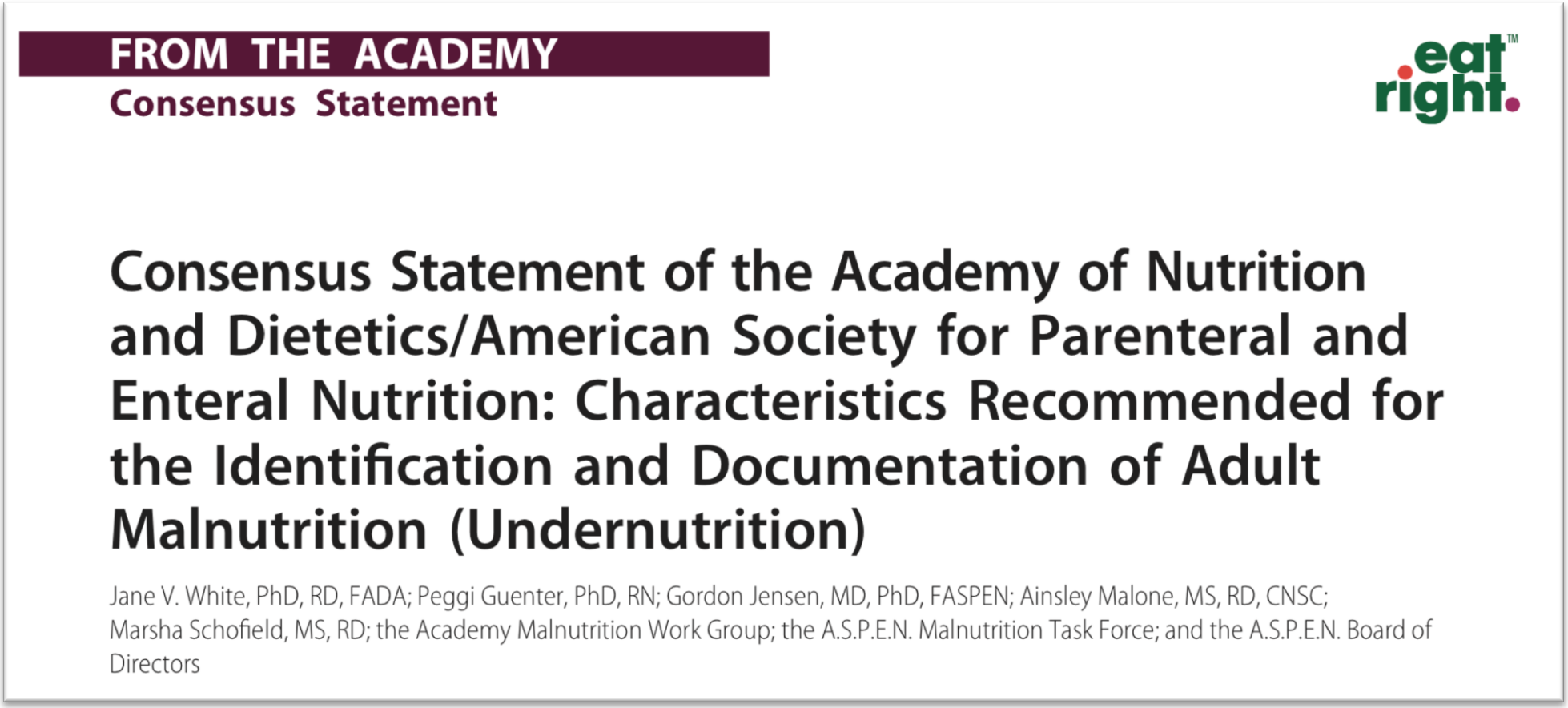
- **Clarity**–
  - Diagnosis noted without a stated cause, suspected cause, or time of occurrence
    - e.g., the patient is admitted with abdominal pain, fever, and chest pain and no underlying cause or suspected cause is documented
    - e.g., a patient is found to have a pulmonary embolus on the second 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

Source: AHIMA. "Managing an Effective Query Process." *Journal of AHIMA* 79, No. 10 (October 2008): 83–88.

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

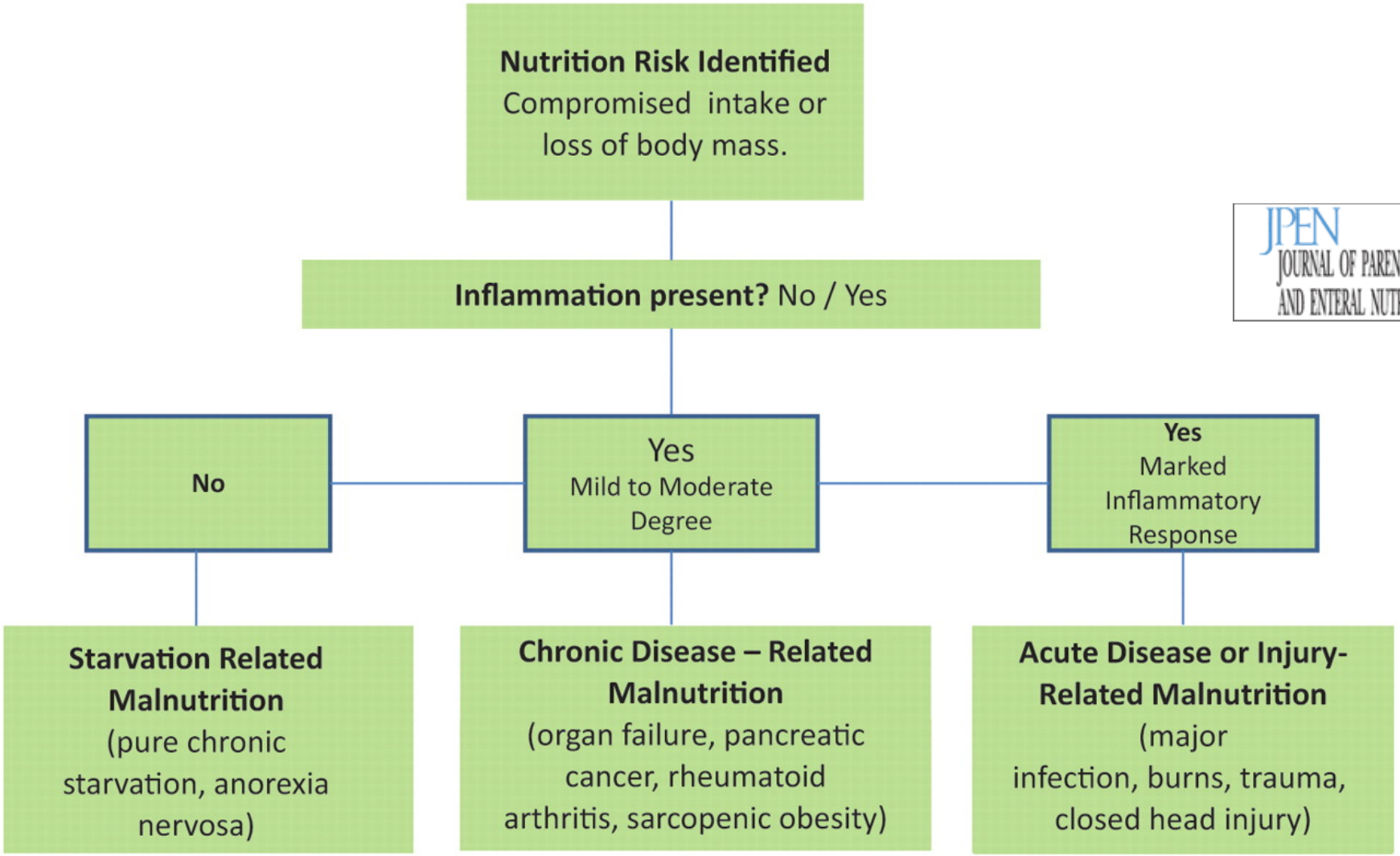
eat right.

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



JPEN JOURNAL OF PARENTERAL AND ENTERAL NUTRITION

Source: White J V et al., *JPEN J Parenter Enteral Nutr,* 2012;36:275-283

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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

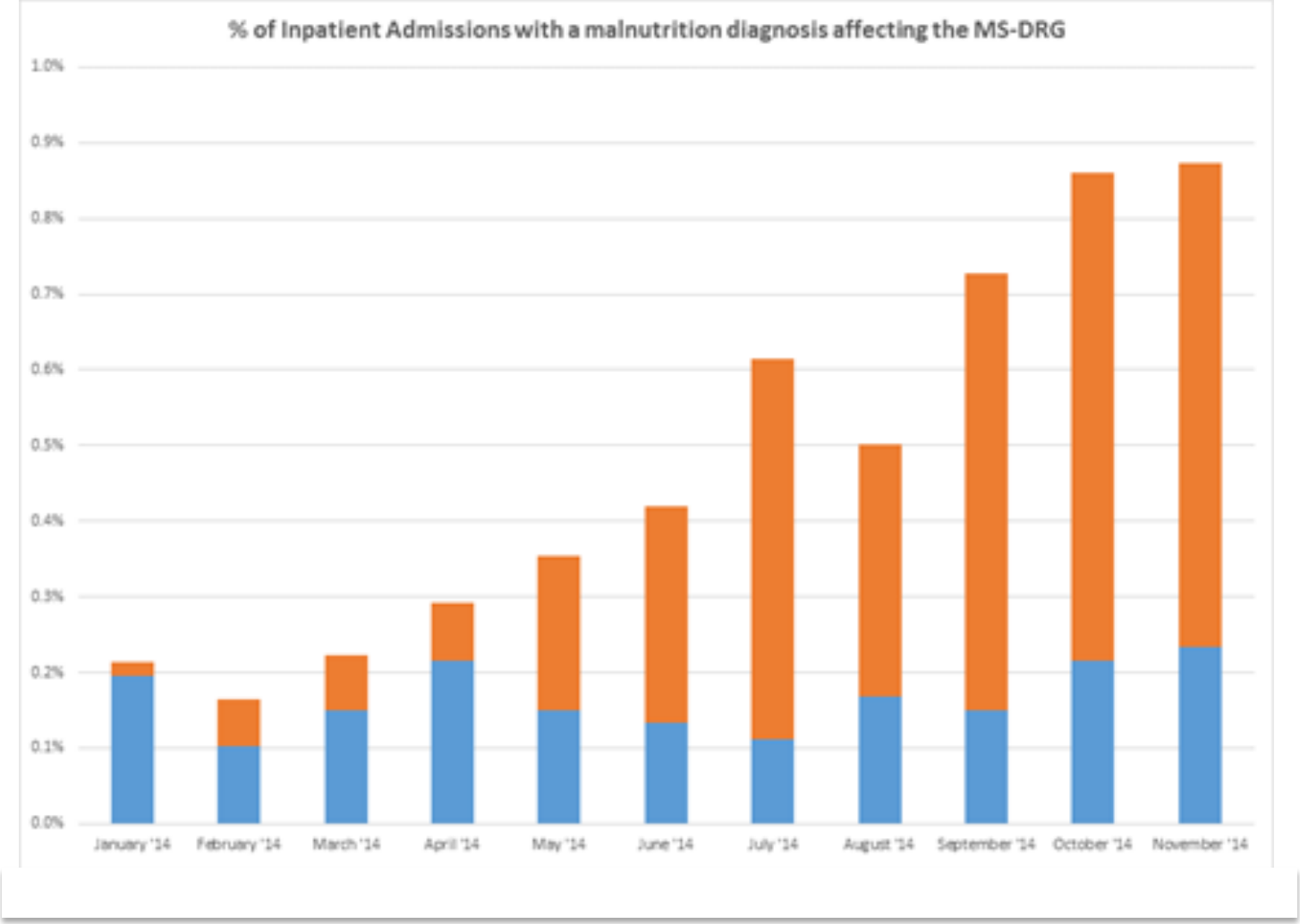
Adult Malnutrition Criteria

Clinical Characteristic	Malnutrition in the Context of Acute Illness or Injury: Nonsevere (Moderate) Malnutrition	Malnutrition in the Context of Acute Illness or Injury: Severe Malnutrition	Malnutrition in the Context of Chronic Illness: Nonsevere (Moderate) Malnutrition	Malnutrition in the Context of Chronic Illness: Severe Malnutrition
(1) Energy intake[1] Malnutrition is the result of inadequate food and nutrient intake or assimilation; thus, recent intake compared with estimated requirements is a primary criterion defining malnutrition. The clinician may obtain or review the food and nutrition history, estimate optimum energy needs, compare them with estimates of energy consumed, and report inadequate intake as a percentage of estimated energy requirements over time.	<75% of estimated energy requirement for >7 days	≤50% of estimated energy requirement for ≥5 days	<75% of estimated energy requirement for ≥1 month	≤75% of estimated energy requirement for ≥1 month
(2) Interpretation of weight loss[2-5] The clinician may evaluate weight in light of other clinical findings, including the presence of under- or overhydration. The clinician may assess weight change over time reported as a percentage of weight lost from baseline.	% Time 1–2 1 wk 5 1 mo 7.5 3 mo	% Time >2 1 wk >5 1 mo >7.5 3 mo	% Time 5 1 mo 7.5 3 mo 10 6 mo 20 1 y	% Time >5 1 mo >7.5 3 mo >10 6 mo >20 1 y
Physical Findings[5,6] Malnutrition typically results in changes to the physical exam. The clinician may perform a physical exam and document any one of the physical exam findings below as an indicator of malnutrition.				
(3) Body fat Loss of subcutaneous fat (eg, orbital, triceps, fat overlying the ribs)	Mild	Moderate	Mild	Severe
(4) Muscle mass Muscle loss (eg, wasting of the temples [temporalis muscle], clavicles [pectoralis and deltoids], shoulders [deltoids], interosseous muscles, scapula [latissimus dorsi, trapezious, deltoids], thigh [quadriceps], and calf [gastrocnemius])	Mild	Moderate	Mild	Severe
(5) Fluid accumulation The clinician may evaluate generalized or localized fluid accumulation evident on exam (extremities, vulvar/scrotal edema, or ascites). Weight loss is often masked by generalized fluid retention (edema), and weight gain may be observed.	Mild	Moderate to severe	Mild	Severe
(6) Reduced grip strength[7] Consult normative standards supplied by the manufacturer of the measurement device	NA	Measurably reduced	NA	Measurably reduced

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

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

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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

Not a CC (no increased weight)	CC (modest increased weight)	MCC (major increased weight)
Abnormal weight loss	Mild malnutrition Moderate malnutrition	Severe malnutrition
Failure to thrive	Cachexia	
Anorexia	Anorexia nervosa	
Underweight	BMI ≤ 19	
Obesity Morbid obesity due to excess calories	BMI ≥ 40 Morbid obesity **with alveolar hypoventilation**	

MS-DRG CC/MCC Table

Not a CC (no increased weight)	CC (modest increased weight)	MCC (major increased weight)
Obesity	BMI ≥ 40	
Morbid obesity due to excess calories	Morbid obesity **with alveolar hypoventilation**	
Abnormal weight gain		

Malnutrition Relative Weights

Description	HCC #	HCC Comm RW	HCC Inst RW	MS-DRG CC/MCC
Severe protein– calorie malnutrition	21	0.713	0.399	MCC
Moderate protein calorie malnutrition	21	0.713	0.399	CC
Mild protein calorie malnutrition	21	0.713	0.399	CC
Unspecified protein-calorie malnutrition	21	0.713	0.399	CC

Malnutrition is either severe, or it is not

Comm = community patient
Inst = institutionalized (e.g., nursing home)

Obesity Relative Weights

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

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-albuminsuffers 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

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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

ICD-10 Code	Description
T383X6A	Underdosing of insulin and oral hypoglycemic [antidiabetic] drugs, initial encounter
T383X6D	Underdosing of insulin and oral hypoglycemic [antidiabetic] drugs, subsequent encounter
T383X6S	Underdosing of insulin and oral hypoglycemic [antidiabetic] drugs, sequela

ICD-10 Code	Description
T384X6A	Underdosing of oral contraceptives, initial encounter
T384X6D	Underdosing of oral contraceptives, subsequent encounter
T384X6S	Underdosing of oral contraceptives, sequela

Patient Noncompliance

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

Z9111	Patient's noncompliance with dietary regimen
Z91120	Patient's intentional underdosing of medication regimen due to financial hardship
Z91128	Patient's intentional underdosing of medication regimen for other reason
Z91130	Patient's unintentional underdosing of medication regimen due to age-related debility
Z91138	Patient's unintentional underdosing of medication regimen for other reason
Z9114	Patient's other noncompliance with medication regimen
Z9115	Patient's noncompliance with renal dialysis
Z9119	Patient's noncompliance with other medical treatment and regimen

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 that 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

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CDI-pertinent Process Resources

Physician Champion Job Descriptions and Resources

- Mount Sinai Medical Center, Miami

National CDI Process Industry Standards or Resources

- 2001 AHIMA Query Practice Brief - AHIMA members only
- 2008 AHIMA Query Practice Brief
- 2010 AHIMA CDI Practice Brief
- 2010 AHIMA CDI Tool Kit
- 2013 AHIMA Query Practice Brief
- 2013 AHIMA Sample Escalation Policy
- AHIMA Standards of Ethical Coding
- AHIMA Ethical Standards for CDI
- ACDIS CDI Code of Ethics
- AMA Code of Medical Ethics
- AHA Coding Clinic Advisor

Sample CDI Practices

- HCA Healthcare Inpatient Coding Policy
- HCA Healthcare Outpatient Coding Policy
- HCA Inpatient CDI Implementation Requirements
- HCA Query Compliance Requirements
- Other HCA Policies
- University of North Texas HSC Policies
- Sound Physicians - Query Policy

CDI-pertinent Physician - Clinical Resources

Cardiology

- 2014 - Heart Rhythm Society definitions of paroxysmal, persistent, and permanent (chronic) atrial fibrillation and typical and atypical atrial flutter
- 2012 - JACC - Defintion of non-sustained ventricular tachycardia
- 2015 - Review of Troponin Intepretation - Mayo Clinic - full text requires subscription to the AJM
- 2012 - 3rd Universal Definition of Myocardial Infarction
- 2014 - Type 1 vs. Type 2 vs. nonischemic myocardial necrosis - American Journal of Medicine
- 2009 - NEJM editorial on ultra-sensitve troponins - requires subscription
- 2010 - Heart Failure Society Guidelines on HF
- 2010 - Heart Failure Society criteria for decompensated HF
- 2014 - JNC8 Hypertension Guideline
- 2008 - NEJM aticle - troponin as a mortality biomarker in acute heart failure
- 2007 - Definition of cardiac tamponade - requires subscription
- 2013 - Definition of (chronic) cor pulmonale
- 2009 - Definition of acute cor pulmonale with HF being integral
- 2015 - Definition of acute cor pulmonale with HF not bein integral

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 hyperglyemic 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