North Carolina Orthopaedic Association

2015 Annual Meeting

Opening Session – Saturday, October 10

October 9-11, 2015 • Kiawah Island Golf Resort

Kiawah Island, South Carolina

This continuing medical education activity is jointly provided by the NCOA and the Southern Regional Area Health Education Center

Wake Forest Baptist Health

ICD-10: Our Current Reality

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Disclosures

Author – developer DT Scimed which has developed an ICD-10 coding application

"I hear there's a new ICD-10 code for carpal tunnel syndrome caused by clicking too many times in an EMR system."

Purpose:

- **Overview ICD-10**
- **Rules of the Code**
- **Implementation tips & tricks**

ICD-10
What is it ?

- Initiated -1983
- Endorsed by the Forty-third World Health Assembly in 1990
- Latest version -1994
- 155,000 codes (ICD-9—17,000)
- Adoption swift in most of the world.
  - "ICD-10-AM" –Australia & NZ in 1998
  - "ICD-10-CA" - Canada in 2000
  - Slow in US

Implemented October 1, 2015

ICD-10 CM
What is it ?

Diagnostic codes:

- 26 areas / chapters 21 (A – Z)
  - eg. chapter 1 *certain infectious disease and parasitic diseases* (A00-B99)
  - chapter 12 *diseases of skin and subcutaneous system* (L00-L99)
- Defined by 4-7 characters
- Etiology codes
  - ---"external causes of morbidity"

ICD-10-CM vs ICD 9

CM– clinical modification
Published by Government
intent

- "useful" classification tool
- Index medical records
- Care review
- Basic health statistics
- Describe clinical "picture"

ICD-10 CM
Why should I care ?

- Necessary for payment
- Reason to deny payment
  - "unspecified" .__9
  - "other" .__8
- Specificity of diagnosis (description) safer

The only efficiency or long-term value is to do it right the first time

Carpal tunnel
ICD-9: 354.0
ICD-10:

- ✓ 4th G56 Mononeuropathy upper limb
  - ✓ 5th G56.0 carpal tunnel syndrome
    - G56.00 carpal tunnel, unspecified upper limb
    - G56.01 carpal tunnel, right upper limb
    - G56.02 carpal tunnel, left upper limb
  - ✓ 5th G56.1 other lesion median nerve
    - G56.10 other lesion median nerve, unspecified upper limb
    - G56.11 other lesion median nerve, right upper limb
    - G56.12 other lesion median nerve, left upper limb

Carpal tunnel
ICD-9: 354.0

- ✓ 4th G56 Mononeuropathy upper limb
  - ✓ 5th G56.0 carpal tunnel syndrome
    - G56.00 carpal tunnel, unspecified upper limb
    - G56.01 carpal tunnel, right upper limb
    - G56.02 carpal tunnel, left upper limb
  - ✓ 5th G56.1 other lesion median nerve
    - G56.10 other lesion median nerve, unspecified upper limb
    - G56.11 other lesion median nerve, right upper limb
    - G56.12 other lesion median nerve, left upper limb
  - ✓ 5th G56.4 Causalgia of upper limb (CRPS II)
    - G56.40 causalgia of unspecified upper limb
    - G56.41 other lesion median nerve, right upper limb
    - G56.42 other lesion median nerve, left upper limb

ICD-10
Why should I care ?

Cost
- Additional employees
- Time consuming /opportunity cost

Complicated

Musculoskeletal severely impacted

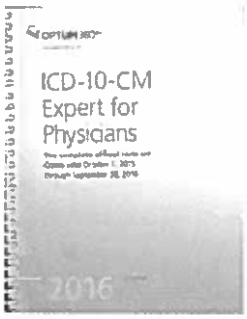
Medical centers have adopted EMR systems that must now have ICD-10

Significant Cost:
- Training
- Programming
- Efficiency
- Denied / delayed payment(s)
- Frustration; quality of life

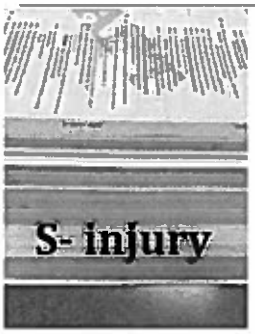
WFBH 2016
$20,000,000

ICD-10 Can't my coder just do it?

Unlikely



ICD-10 Orthopaedics & musculoskeletal



Injury alone :1 3/16 in.

Musculoskeletal >1/2

ICD-10

Musculoskeletal codes

- ***Most numerous***
- ***Complicated***
- ***33% unspecified & other***

However, you better not use "unspecified" or "other"

ICD-10
Won't the coders do it ?

- **yes but *NO***
- **Too complicated**
- **You have to give them all details**

or

Musculoskeletal - most complicated

- Injury S
- Nervous system G
- Circulatory I
- Skin L
- Musculoskeletal / connective tissue M
- Congenital Q
- External causes V
- Medical co-morbidities

ICD-10 vs ICD 9

- Improved specificity
- Laterality
- Joint and bone involvement
- Injury status/progression
- Physeal injury
- Mechanism
- Current status
- External causes of injury
- Details
  - Complications
  - Pathologic fractures

Why ICD-10 ? improved specificity

Charcot ICD-9-CM 713.5 now hasd 50 descriptors In ICD 10 joint and etiology specific

✓5th M14.6 Charcot's Joint
✓6th M14.60 Charcot's joint; unspecified site
M14.61 Charcot's joint; shoulder
M14.611 Charcot's joint, right shoulder
M14.612 Charcot's joint, left shoulder
M14.619 Charcot's joint, unspecified shoulder
M14.62 Charcot's joint, elbow
M14.63 Charcot's joint, wrist
M14.64 Charcot's joint, hand

Better care?

ICD-10-CM vs ICD 9

Increase in characters

- Majority codes
- Letter as 1st character
  - eg spastic quadriplegic cerebral palsy
    ICD- 9 *343.2*
    ICD-10 *G80.0*

If required :

- 6th and 7th character not optional
- 7th character letter for injury
- "X" may be used as a placeholder or ___ "filler" character

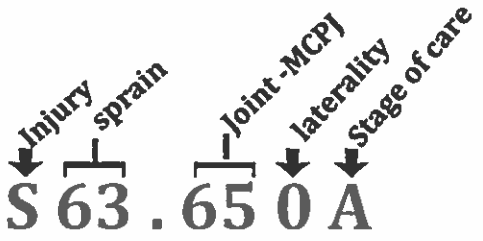
What are the "rules" of ICD-10?

✓ 4th

Code: 4 – 7 characters:

- 1st ➡ always a letter A to Z
- 2nd , 3rd ➡ identify category (disease / injury/ Event)
- Followed by "."
- 4th , 5th ➡ area or process
- 6th ➡ laterality
- 7th ➡ letter (stage /status healing)

ICD-10: some rules of the code



Sprain metacarpophalangeal joint right index; initial encounter

S63.650A

ICD-10: some rules of the code

✓ 4th **The number of characters required**

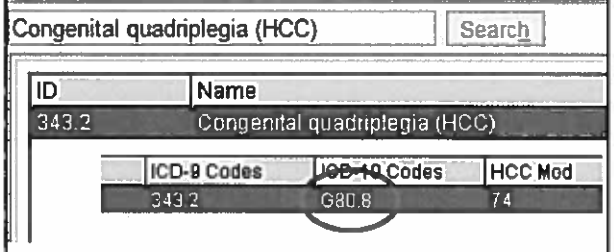
"Simple" diseases 4 characters

- *Type 1 diabetes without complications E10.9*
- *Primary hypothyroidism E20.0*

"Complex" diseases *with complications :5-6 characters*

- *Diabetes Type 1 neurologic complications*
  - ❑ *Mononeuropathy E10.41*
  - ❑ *Polyneuropathy E10.42*
    - ❖ *Neuropathic arthropathy E10.610*

Epic 2014



Vendor supplied

- **"mapped" your coding**
- **Often too generic**
- **.8 = "other"**

Epic 2014 errors from ICD-10 vendors

Cerebral palsy
G80.0 spastic quadriplegic **cerebral palsy**
G80.1 spastic diplegic **cerebral palsy**
G80.2 spastic hemiplegic **cerebral palsy**
G80.3 athetoid **cerebral palsy**
G80.4 ataxic **cerebral palsy**
G80.8 other **cerebral palsy**
G80.9 cerebral palsy, unspecified

Epic 2014 errors from ICD-10 vendors

High probability carriers will *DENY* claims with primary diagnoses of "other" and "unspecified"

Benefits of ICD-10 ?

Musculoskeletal diagnosis:

- **Descriptor**
  - ***How we treat patient***
  - ***Must be specific***
  - ***Without abbreviation (s)***
- **Code**
  - ***Necessary for payment***

ICD-10-CM vs ICD 9 ***required***

Correct code

descriptor that is exact for enough management correct characters

Dilemma:

process is complicated enough that "coders" will be unable to complete without exact verbiage

ICD-10-CM vs ICD 9 ***compliance***

In addition:

the body of the history and physical will have to support the diagnosis

HPI: **... patient, as a pedestrian, was struck by pedal cycle with ... landing on right hand ..."**

Physical exam : **Right UE: deformed humerus... skin intact ...**

X-rays: **displaced fracture midshaft ; right personally reviewed...**

ICD-10-CM vs ICD 9 ***compliance***

Chief complaint :

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

History Present illness

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Physical exam :

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

X-rays: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

ICD-10-CM vs ICD 9 ***compliance***

Chief complaint :

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

History Present illness

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

... patient, as a pedestrian, was struck by pedal cycle with ... landing on right hand ..."

Physical exam : **Right UE: deformed humerus... skin intact ...**

X-rays: **displaced fracture midshaft ; right personally reviewed**

Are there inconsistencies and contradictions ?

All hemiplegia is not the same

Cerebral palsy – congenital

✓4h **G80.1 spastic hemiplegic cerebral palsy– No laterality/No dominance**

✓5h **Hemiplegia and Hemiparesis – *unspecified cause***

G81.11 spastic hemiplegia affecting right dominant side
G81.12 spastic hemiplegia affecting left dominant side
G81.13 spastic hemiplegia affecting right non-dominant side
G81.14 spastic hemiplegia affecting right non-dominant side

✓6h **I69.05--following *non-traumatic subarachnoid hemorrhage;***

✓6h **I69.15--following *non-traumatic intracranial hemorrhage;***

✓6h **I69.35--following *cerebral infarction hemorrhage;***

✓6h **I69.35--following *other cerebrovascular disease***

ICD-10: some rules of the code

Injury 6-7 characters

Soft tissue

Sprain MCPJ thumb S63.64 ✓6th

requires character for laterality

- **sprain MCPJ of right thumb S63.641** ✓7th

Requires

The appropriate 7th character is added to each code from category S63

A initial encounter
D subsequent encounter
S sequelae

ICD-10: some rules of the code

Laterality (90%)

right : ._ _1
left : ._ _2
unspecified: ._ _9

Lists vary
Sprain MCPJ finger

Right index	**S63.650**
Left index	**S63.651**
Right middle	**S63.652**
left middle	**S63.653**
Right ring	**S63.654**
left ring	**S63.655**
etc	

ICD-10: some rules of the code

Unspecified part /area

._ 0 **Sprain unspecified part of...**

Other ._ 8 **Sprain of other part of unspecified wrist** S63.8X9_

Other 8 unspecified 9 **Other sprain of other finger** S63.698 _

Fractures ICD-10: some rules of the code

Fractures:

- **Never bilateral**
- **Assumed "*displaced*" unless -- coded "*non displaced*"**
- **Open vs closed designation required**

ICD-10: some rules of the code

Fractures ✓7th character
- Long bone closed
- Not long bone closed or open
- Long bone open
  - Bone
    - Displacement
      - Open vs closed
        - Laterality
          - Stage of healing
            - Other / unspecified

7th character--modifier NOT long bone fractures

The appropriate 7th character is added to all Codes in subcategory_____
A initial encounter
D subsequent encounter for fracture with routine healing
G subsequent encounter for fracture with delayed healing
K subsequent encounter for fracture with malunion
P subsequent encounter for fracture with malunion
S sequelae

7th character--modifier Closed fracture

The appropriate 7th character is added to all Codes in subcategory_____
A initial encounter
D subsequent encounter for fracture with routine healing
G subsequent encounter for fracture with delayed healing
K subsequent encounter for fracture with malunion
P subsequent encounter for fracture with malunion
S sequelae

LONG BONE FRACTURES

The appropriate 7th character is added to all
Codes from category ____ (unless otherwise indicated)

A initial encounter for closed fracture
B initial encounter for open fracture Type I or II
initial encounter for open fracture NOS
C initial encounter for open fracture Type IIIA, IIIB, IIIC
D subsequent encounter for closed fracture with routine healing
E subsequent encounter for open fracture type II or II with routine healing
F subsequent encounter for open fracture type IIIA, IIIB, IIIC with routine healing
G subsequent encounter for closed fracture with delayed healing
H subsequent encounter for open fracture type II or II with delayed healing
J subsequent encounter for closed fracture type IIIA, IIIB, IIIC with delayed healing
K subsequent encounter for closed fracture with non union
M subsequent encounter for open fracture type II or II with non union
N subsequent encounter for closed fracture type IIIA, IIIB, IIIC with non union
P subsequent encounter for closed fracture with delayed healing
Q subsequent encounter for open fracture type II or II with delayed healing
R subsequent encounter for closed fracture type IIIA, IIIB, IIIC with delayed healing
S sequelae

ICD-10: some rules of the code

"Bilateral" – congenital only

Injury / acquired musculoskeletal / vascular etc. ---right; left

The only consistency within ICD-10 is the lack of consistency

ICD-10

- Laterality
- Physeal injury
- Specificity
- Mechanism
- Current status

ICD-10

- Too complex
- Retention acronyms
- Insufficient specificity
- Inconsistency
- Rigidity
- "Other" / "unspecified"

ICD-10

- Complexity
- *Retention Eponyms*
  Insufficient specificity
- Inconsistency
- Rigidity
- "Other" / "unspecified"
- Non traditional descriptors
- Redundancy

Colles
Bartons
Smiths

ICD-10

- Complexity
- Retention acronyms
- *Insufficient specificity*
- *Inconsistency*
- Rigidity
- "Other" / "unspecified"
- Non traditional descriptors
- Redundancy

Laceration blood vessel of right thumb S65.411
Radial ?
Ulnar ?

Other physeal injuries specific eg "Salter Harris type IV physeal fracture; lower end of radius; right arm " S59.241A

ICD-10

- Complexity
- Retention acronyms
- Insufficient specificity
- Inconsistency
- Rigidity
- "Other" / "unspecified"
- *non traditional descriptors*
- *Redundant*

"Salter Harris type IV physeal fracture; lower end of radius; right arm "
S59.241A

Instead of

"type IV physeal fracture; distal radius; right "
S59.241A

ICD-10

- Complexity
- Retention acronyms
- Insufficient specificity
- Inconsistency
- Rigidity
- "Other" / "unspecified"
- Non traditional descriptors
- redundant

"upper end" ≠ proximal

"lower end" ≠ distal

ICD-10

- Complexity
- Retention acronyms
- Insufficient specificity
- Inconsistency
- Rigidity
- "Other" / "unspecified"
- Verbose / non traditional descriptors
- *redundant*

Radius; right arm

Salter Harris physeal

Musculoskeletal – Injury S

- Body area
  - Superficial

contusion
abrasion
blister
external constriction
foreign body
insect bite
other bite
Other
unspecified

Musculoskeletal – Injury S

- Body area
  - Superficial
    - ✓Open wound

Unspecified
Laceration – without FB
Laceration –with FB
Puncture - – without FB
Puncture –with FB
Open bite

Musculoskeletal – Injury S

- Body area
  - Superficial
    - ✓Open wound
  - Fracture
  - Dislocation
  - Subluxation
  - Strain
  - Nerve
  - Blood vessel
  - Muscle, fascia, tendon

Deep

7th character--modifier

Soft tissue

The appropriate 7th character is added to each code from category ___
A initial encounter
D subsequent encounter
S sequelae

Specificity ICD-10 & timing

Nerve
- specific — ✓ 5th S54.0 Injury of ulnar nerve at forearm level
- other

Level of injury
- specific
- Unspecified

Laterality
- specific
- other

Stage of care

Specificity ICD-10:-timing/progress modifier

✓ 5th **S54.0 Injury of ulnar nerve at forearm level**
- ✓ X 7th **S54.00** Injury of ulnar nerve at forearm level, unspecified arm
- ✓ X 7th **S54.01** Injury of ulnar nerve at forearm level, right arm
- ✓ X 7th **S54.01** Injury of ulnar nerve at forearm level, left arm

✓ Needs following :
X - place holder
7th – character "modifier"

Specificity ICD-10:-timing/progress modifier

✓ 5th **S54.0 Injury of ulnar nerve at forearm level**
- ✓ X 7th **S54.00X** Injury of ulnar nerve at forearm level, unspecified arm
- ✓ X 7th **S54.01X** Injury of ulnar nerve at forearm level, right arm
- ✓ X 7th **S54.01X** Injury of ulnar nerve at forearm level, left arm

The appropriate 7th character is added to each code from category S54
A Initial encounter
D subsequent encounter
S sequelae

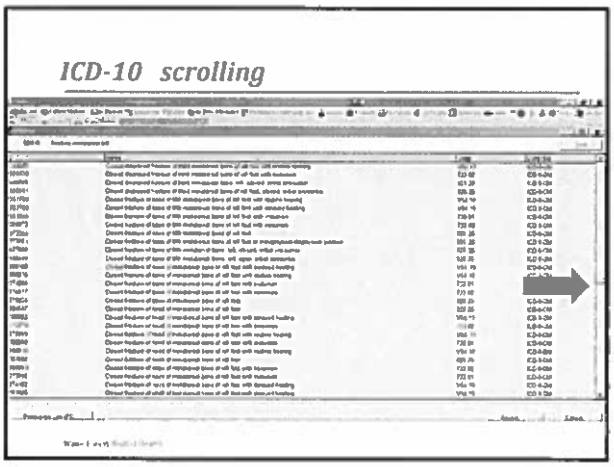
Specificity ICD-10:-timing/progress modifier

✓ 5th **S54.0 Injury of ulnar nerve at forearm level**
- ✓ X 7th **S54.00X** Injury of ulnar nerve at forearm level, unspecified arm
- ✓ X 7th **S54.01X** Injury of ulnar nerve at forearm level, right arm
- ✓ X 7th **S54.01X** Injury of ulnar nerve at forearm level, left arm

S54.01X A
injury of ulnar nerve at forearm level, right arm; initial encounter

Complexity
H ICD-10 fracture metatarsal

ICD-10 scrolling



ICD-10

New Problem

Problem: Closed fracture of base of metatarsal bone of left foot with malunion

Display: Closed fracture of base of metatarsal bone of left foot with malunion

Priority: Noted 9/3/2014 ☐ Chronic

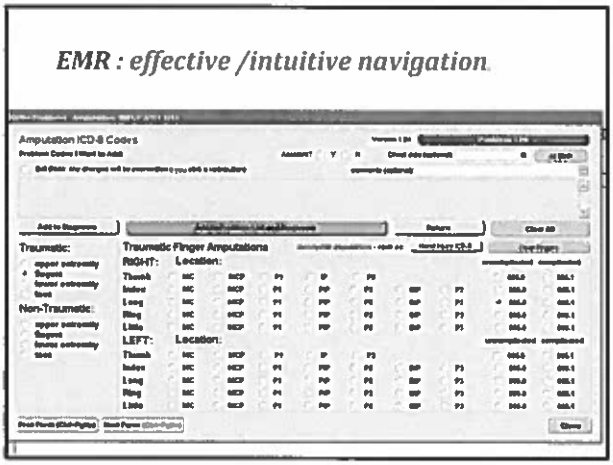
Class: Resolved ☑ Share with Patient

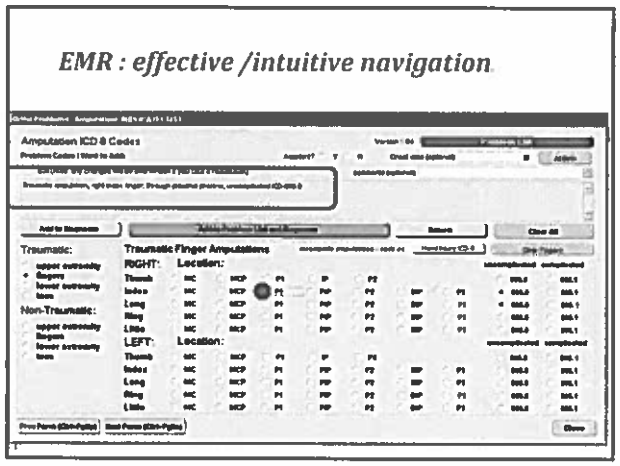
Overview

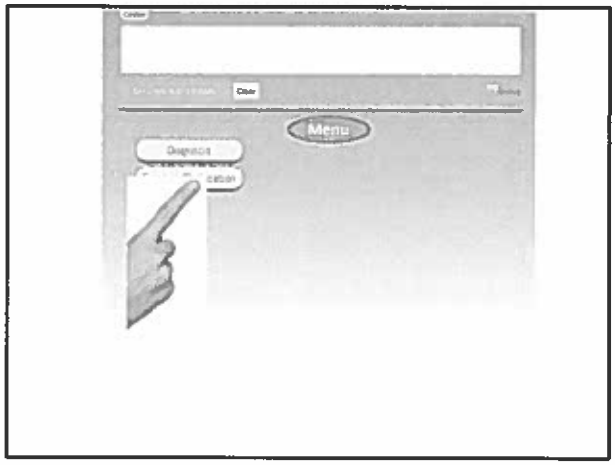
Malunion Fracture unspecified metatarsal, closed; left –initial encounter

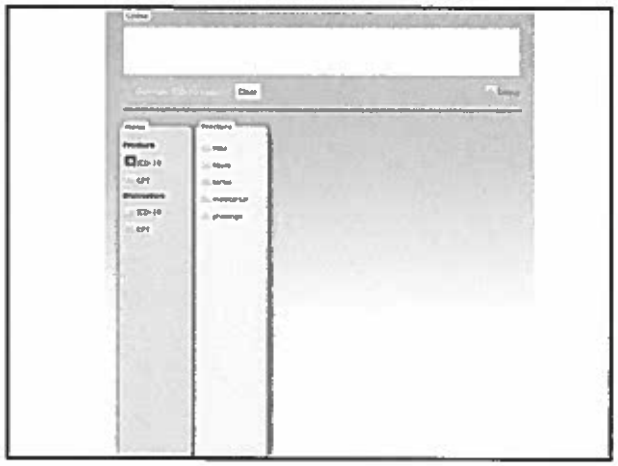
ICD-10: S92.302P

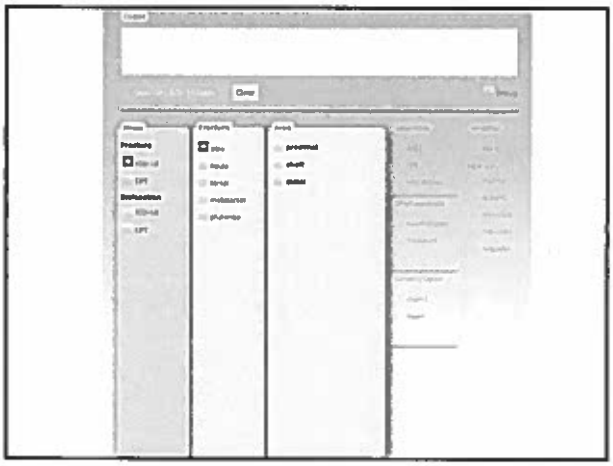
EMR : effective /intuitive navigation

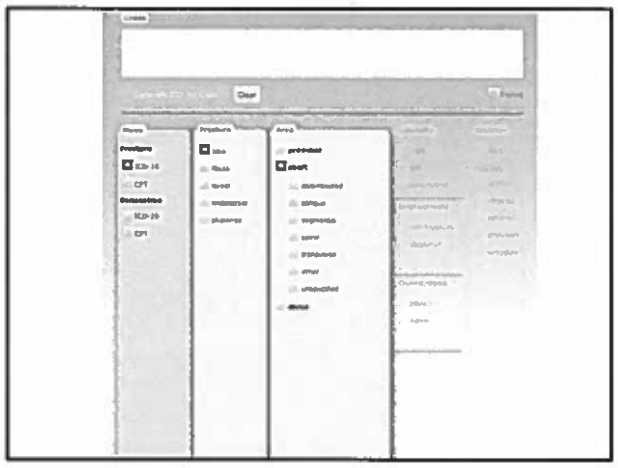


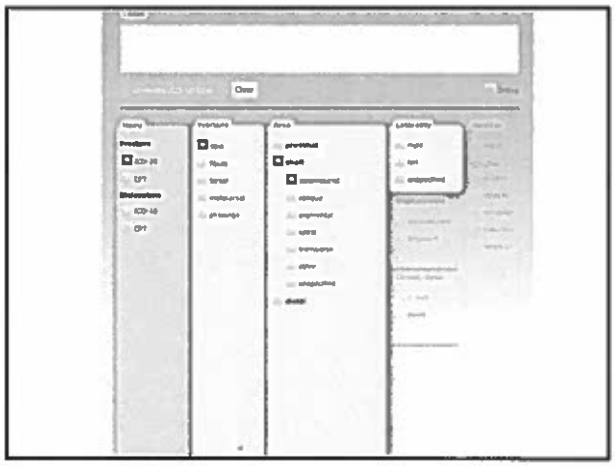

EMR : effective /intuitive navigation
Amputation ICD 9 Codes
Traumatic:
Non-Traumatic:
Traumatic Finger Amputations
RIGHT:
Location:
LEFT:
Location:

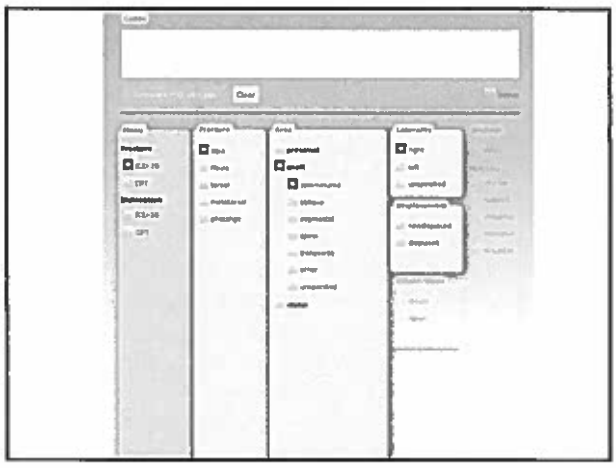

Menu

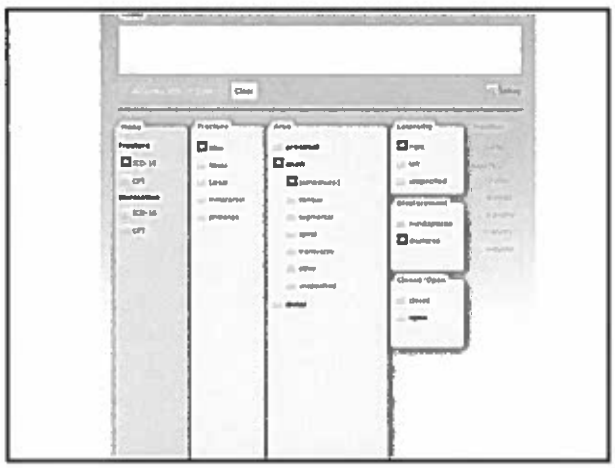


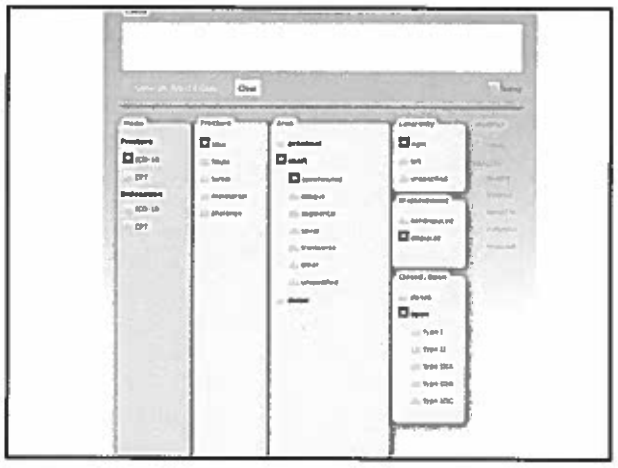


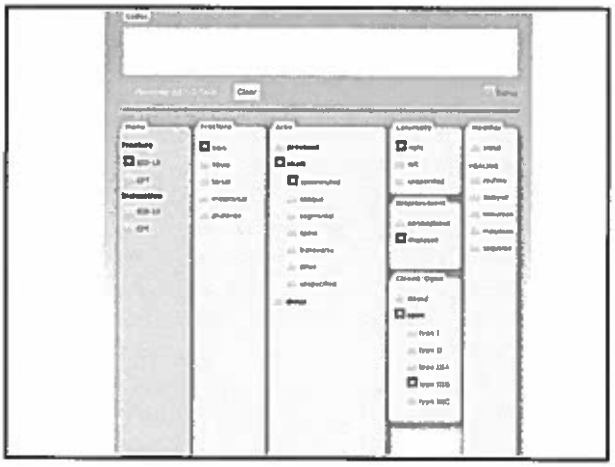


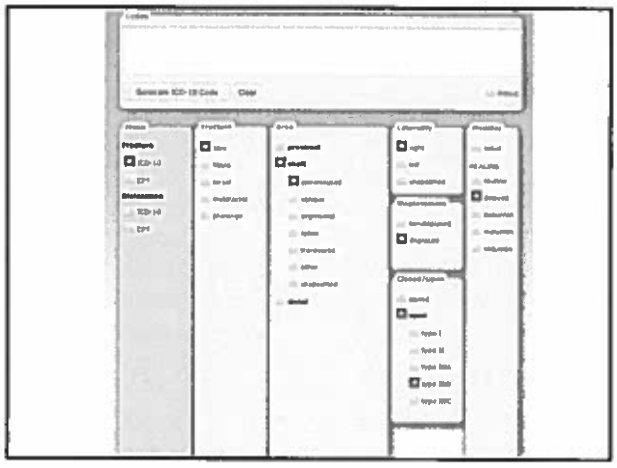


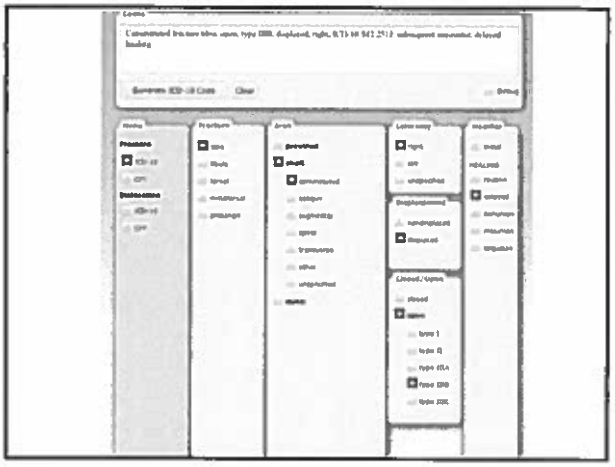












Mechanism of Injury

- Very compicated
- Example
  - ➢ Pedestrian
    - ❑ Fall
    - ❑ Stuck by
    - ❑ Bitten by
    - ❑ Fell from

Mechanism of Injury

- Very compicated
- Example
  - ➢ Pedestrian
    - ❑ Fall
    - ❑ Stuck by
    - ❑ Bitten by
    - ❑ Fell from
      - ❑ Pedal cycle
      - ❑ Motorcycle
      - ❑ 4 wheel vehicle
      - ❑ Bus
      - ❑ Truck
      - ❑ Train

What is available ?

- Complex process
- Non-intuitive programs

"I thought I was on to something but I can't figure out how to move it."

What is needed?

- Physician / end-user involvement
- Informatics, not process
- Intuitive not iterate (taught)

--no "lunch and learns", classes etc.

- Appropriate evolution
- Designed to care for patient & bill

How will the Financial Incentive to Provide THA and TKA for High-risk Patients Change with Flat-rate Bundled Payments?

R. Carter Clement, MD, MBA; Michael M. Kheir, MD; Adrianne E. Soo, BS; Peter B. Derman, MD, MBA; David N. Flynn, MD, MBA; L. Scott Levin, MD, FACS; Lee A. Fleisher, MD

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

Penn

Background

- CMS experimenting with "Bundling"
- Recently proposed mandatory bundled payments in TJA beginning Jan 2016
- Meant to change incentives created by "Fee for service" payments
- Risk of "Cherry picking"

Background

- Need for well-designed risk stratification
- Still, "flat rate" bundling programs predominate
- Currently, CMS bases payments on MS-DRG Weights
- Extra compensation for "MCC" modifiers

Study Questions

What is the financial impact of major medical complications among Medicare patients undergoing total hip arthroplasty (THA), both currently and with "flat-rate" bundled payments?

Are certain patient characteristics predictive of major complications?

Methods

- THA & TKA examined, THA data only here
- Retrospective, 553 primary elective THAs in Medicare-eligible patients (age 65+) at an urban academic center, 2 year period
- Contribution Margin: reimbursement less variable cost
  (represents hospital's short-term incentives)
- Profit: reimbursement less total cost
  (represents long-term incentives)

Methods

- Patients with an MCC were compared to those without on basis of profit & CM
  - For current reimbursement levels
  - With flat-rate bundled payments
- Also compared on basis of clinical & demographic factors

Results: Contribution Margin

	No MCC (n=507)	+ MCC (n=46)	P-value
Variable cost	$9,496	$14,590	<0.01
Reimbursement	$16,051	$26,183	<0.01
Contribution margin	$6,997	$10,317	0.02
Current margin relative to patients without major complications	-	$3,319	0.02
Margin with flat-rate bundled payments relative to patients without major complications	-	-$5,094	<0.01
Change in Margin with flat-rate bundled payments	-	-$8,413	<0.01

Results: Profit

	No MCC (n=507)	+ MCC (n=46)	P-value
Total cost	$17,629	$28,890	<0.01
Reimbursement	$16,051	$26,183	<0.01
Profit	-$1,212	-$4,423	<0.01
Current profit relative to patients without major complications	-	-$3,211	<0.01
Profit with flat-rate bundled payments relative to patients without major complications	-	-$11,261	<0.01
Change in Profit with flat-rate bundled payments	-	-$8,050	<0.01

Results: Patient Characteristics

	+ MCC	No MCC	P-Value
Age (years)	76.2	73.8	**0.02**
Gender (Male)	36.3%	43.5%	0.39
ASA (≥ 3)	69.6%	38.5%	**< 0.01**
BMI	30.3	28.8	0.12
LOS (days)	7.7	4.1	**< 0.01**
Race			
White	63.0%	76.5%	**0.02**
Black	28.3%	19.1%	0.16
Asian	2.2%	0.4%	0.12
Native American	0.0%	0.4%	0.67
Other	6.5%	1.6%	-
Unknown	0.0%	2.0%	-

Results: TKA

A very similar pattern of results was found among TKA patients, but the procedure was profitable for hospitals with and without complications

($1,344 & $1,562, respectively)

Again, ASA grade was an important predictor of major complications

Conclusions

- TJA complications increase hospital costs
- Current Medicare reimbursement is higher for patients with major complications
  - Covers variable, not fixed costs for THA
  - Covers TKA costs well
- Flat-rate bundled payments would create a much larger incentive against these patients
- Risk factors for major complications can be identified, so “cherry picking” is a real threat

Conclusions

CMS and other payers should design rigorous risk adjustment methodologies before rolling out bundled payments to prevent barriers to care for high-risk patients

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Thank You

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San Francisco

How will we treat knee arthritis in the future?

payers, platelets, partials, and PRO's

Thomas Parker Vail, MD
James L. Young Professor and Chairman
Department of Orthopaedic Surgery
University of California, San Francisco

Disclosure

The Department of Orthopaedic Surgery and faculty at UCSF receive research and educational support from private, public, and non-profit entities that includes patients, payers, and technology providers.

Dr. Vail is a consultant for DePuy (consulting fees and royalties). He is a Director on the ABOS, and the Boards of AAHKS, the Hip Society, and the Knee Society.

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UCSF Hospitals and Clinics

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Change.

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We are in a time of tremendous change and evolution with unparalleled opportunities to reshape how we **deliver** care for patients, **define** our field, and incorporate **discovery** into practice.

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Threats.

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Focus on cost

Total direct **expenditures** for musculoskeletal conditions have been estimated to be over **one trillion** dollars annually, or around **7% of the GDP**.

The average hospital **cost** for knee replacement surgery is $35-45,000. 500-600,000 TJA are performed annually.

Cost: $17.5 Billion!

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Evidence-based decisions: "Pay for quality, not quantity. Value. Transparency."

Value = quality/cost

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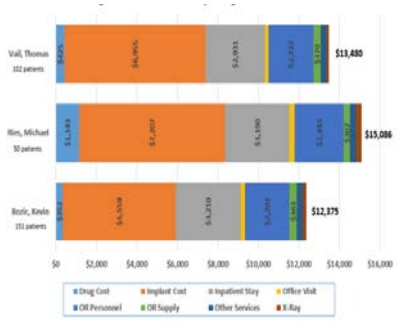
Physician level scrutiny on spending.



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Hospital/physician level scrutiny of performance

Expert • Independent • Nonprofit
ConsumerReports.org

Consumer Reports rates hospitals on infections: 9 highest, 12 lowest performing hospitals

Payer strategies to shift risk to provider

- Payers (GAO report) recognize that financial incentives could induce some physicians to oversupply overvalued services and undersupply undervalued services
- Population management through accountable care (ACO)
- Episode of care management through bundles (bundled care)

THE PATIENT PROTECTION AND AFFORDABLE CARE ACT

H.R. 2, the "Medicare Access and CHIP Reauthorization Act of 2015" (MACRA)

Performance assessment of eligible professionals:

- Quality (measures developed through notice, registries, global and population based measures)
- Resource use
- Clinical practice improvement (access, population management, safety, alternate payment participation)
- Meaningful use (EHR)

H.R. 2, the "Medicare Access and CHIP Reauthorization Act of 2015" (MACRA)

Performance scoring and payment adjustments:

- Negative Adjustments: The maximum negative adjustment will be as follows: 4% in 2019, 5% in 2020, 7% in 2021, and 9% in 2022 and subsequent years.
- Zero adjustments
- Positive adjustments: balanced with negative.
- Additional incentives: linear increase

H.R. 2, the "Medicare Access and CHIP Reauthorization Act of 2015" (MACRA)

5% bonus on Medicare disbursements through alternative payment models (APM) such as ACO and bundled care

- 2019 and 2020, at least 25% of the Part B payments
- 2021 and 2022, at least 50% of Part B payments
- 2023 and each subsequent year at least 75% of Part B

PROPOSED RULE: MEDICARE PROGRAM; COMPREHENSIVE CARE FOR JOINT REPLACEMENT PAYMENT MODEL FOR ACUTE CARE HOSPITALS FURNISHING LOWER EXTREMITY JOINT REPLACEMENT SERVICES
[CMS-5516-P]

SUMMARY

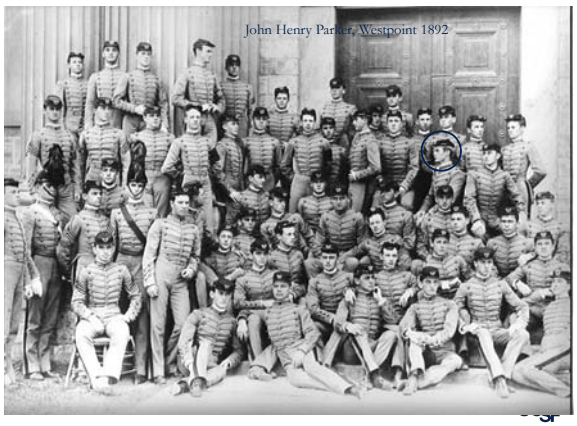
On July 9, 2015, the Centers for Medicare & Medicaid Services (CMS) posted a proposed rule to implement a new Medicare Part A and B payment model, called the Comprehensive Care for Joint Replacement (CCJR) model, as a demonstration project under section 1115A of the Social Security Act. Under the model, acute care hospitals in certain selected geographic areas would receive retrospective bundled payments for episodes of care for lower extremity joint replacement or reattachment of a lower extremity. All related care within 90 days of hospital discharge from the joint replacement procedures would be included in the episode of care. Participation would be mandatory for hospitals selected to be in the demonstration.

The rule was published in the July 14th issue of the *Federal Register*. The 60-day public comment period ends at close of business on September 8, 2015. If finalized as proposed, the policies in the proposed rule would take effect on January 1, 2016.

Current *tension* in orthopaedic practice

Common	Controversial
Indications for surgery "straight-forward"	Huge regional variation
Under 50: fastest growing segment	Under 50: least favorable outcomes
Personalized	Standardized
High cost	High value
Highly developed marketing	Poorly developed outcome reporting
More people insured	More people underinsured

Take action?



John Henry Parker, Westpoint 1892

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Henry Burr Parker. Commanding Officer of the 188th Field Artillery Group, FIRST Army, from 1943 to 1945. Mount "Pinky"

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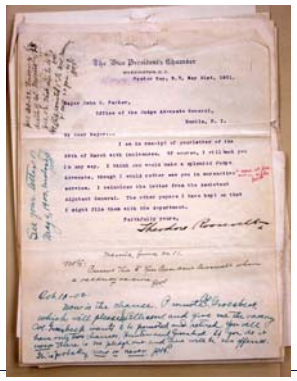

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There is an ethical imperative to pursue the highest quality

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There is a financial imperative for reform

Musculoskeletal disorders and diseases are **the most common "health condition" in the United States**, the **leading cause of disability**, affecting **all age groups** including children and adults, and accounting for more than **half of all chronic conditions in people over 50** years.

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We must be aware of what is going on around us in order to succeed in our mission

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What made us successful yesterday will not necessarily be the right formula for tomorrow.

Beyond Basketball, Mike Krzyzewski, Warner Business Books, 2006

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Advocate.

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The Direct and Indirect Costs to Society of Treatment for End-Stage Knee Osteoarthritis

David Ruiz Jr., MA, Lane Koenig, PhD, Timothy M. Dall, MS, Paul Gallo, BS, Alexa Narzikul, BA, Javad Parvizi, MD, and John Tongue, MD

Investigation performed at KNG Health Consulting, LLC, Rockville, Maryland

Conclusions: The estimated lifetime societal savings from the more than 600,000 total knee arthroplasties performed in the U.S. in 2009 were estimated to be approximately $12 billion. These societal savings primarily accrued to patients and employers. The study demonstrates the importance of a societal perspective when considering the costs and benefits of total knee arthroplasty and policies that will affect access to this procedure.

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Outcome assessment without risk adjustment pushes aside the most vulnerable patients.

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DOCUMENTATION OF CLINICAL RISK FACTORS FOR LOWER EXTREMITY ARTHROPLASTY

Patient's Name _____ Date of Birth:_____

I hereby document that I am planning on performing a lower extremity joint replacement on the above patient and that this patient has the following clinical risk factors:

	Clinical Risk Factor	Code
☐	Morbid obesity BMI >40	278.01
☐	Smoking	305.1
☐	Chronic anticoagulant use	V58.61
☐	Chronic narcotic use	305.51
☐	Workmans compensation case	V70.3
☐	Previous intra-articular infection	711.05
☐	Congenital hip deformity	755.63
☐	Angular knee deformity >15 degrees	736.6
☐	Previous ORIF hip	715.35
☐	Previous ORIF knee	715.26
☐	Depression/psychiatric disease	300.9

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Define practice.

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AAOS

American Academy of Orthopaedic Surgeons

SURGICAL MANAGEMENT OF OSTEOARTHRITIS OF THE KNEE

EVIDENCE-BASED CLINICAL PRACTICE GUIDELINE

Public Comment Draft

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AAOS Performance Measures Committee (Council on Research and Quality)

Evidence*

↓

Clinical practice guideline (CPG)

↓

Appropriate use criteria (AUC)

↓

Clinical performance measures (outcome based)

↓

Performance assessment

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AAOS Performance Measures Committee (Council on Research and Quality)

- Assessing function and pain in patients with osteoarthritis
- The management of hip fractures in the elderly

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The evidence basis for defining quality is disappointingly sparce

- Evidence is poor (DVT, dental prophylaxis, HA injections)
- Recommendations are controversial (HA injections)
- Unintended consequences may be dangerous (efficiency measures?).

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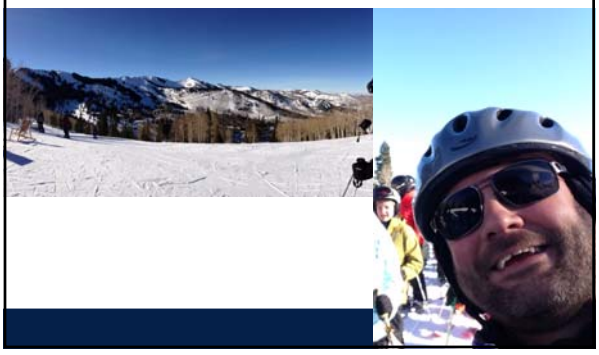

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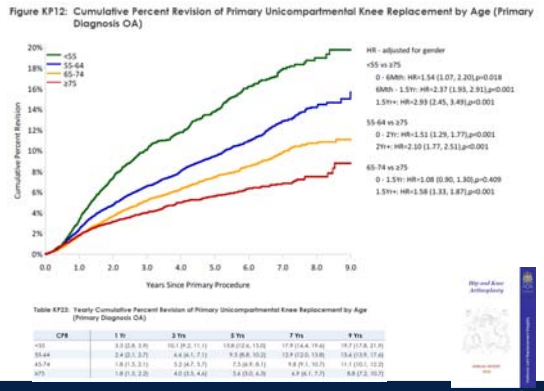

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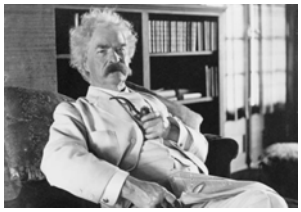
Does the evidence support change?

"Be careful about reading health books. You may die of a misprint."



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Measure results.

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What is the best measure of performance in orthopaedic surgery?

The value-based use of "quality"

"The value-based use of the term quality refers **strictly to patient-centered health outcomes and does not include measures of processes** or patients' satisfaction with services that do not directly impact their health."

Improving Value in Musculoskeletal Care Delivery

AOA Critical Issues

David H. Wei, MD, MS, Gillian A. Hawker, MD, MSc, David S. Jevsevar, MD, MBA, and Kevin J. Bozic, MD, MBA

"When you get a hip replacement, ***it's not how quick did you get out of bed, but how soon did you get back to playing golf.*** *And unless we know you're a golfer, we don't really know how to then measure the outcome…"*

— Dr. David Feinberg, CEO, UCLA Health System

What is a quality measure?

National Quality Measure Clearinghouse www.qualitymeasures.ahrq.gov

Access – timely and appropriate care

Outcome – health state of a patient resulting from health care

Patient experience – aggregate reports of patients

Process – health care service provided to or on behalf of a patient

Structure – capacity to provide care (nurse/patient ratio)

What is a quality measure?

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Outcome – health state of a patient resulting from health care

Patient experience – aggregate reports of patients

Process – health care service provided to or on behalf of a patient

Structure – capacity to provide care (nurse/patient ratio)

Patient reported outcome (PRO)

e117(1)

Comparison of Patient-Reported and Clinician-Assessed Outcomes Following Total Knee Arthroplasty

Gaurav Khanna, MD, Jasvinder A. Singh, MD, MPH, Donald L. Pomeroy, MD, and Terence J. Gioe, MD

Investigation performed at the Minneapolis Veterans Affairs Medical Center, Minneapolis, Minnesota, and the University of Louisville Medical College, Louisville, Kentucky

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ORIGINAL INVESTIGATION

ONLINE FIRST

The Cost of Satisfaction

A National Study of Patient Satisfaction, Health Care Utilization, Expenditures, and Mortality

Joshua J. Fenton, MD, MPH; Anthony F. Jerant, MD; Klea D. Bertakis, MD, MPH; Peter Franks, MD

Conclusion: In a nationally representative sample, higher patient satisfaction was associated with less emergency department use but with greater inpatient use, higher overall health care and prescription drug expenditures, and increased mortality.

ARCH INTERN MED/ VOL 172 (NO. 5), MAR 12, 2012 WWW.ARCHINTERNMED.COM
405

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Innovate.

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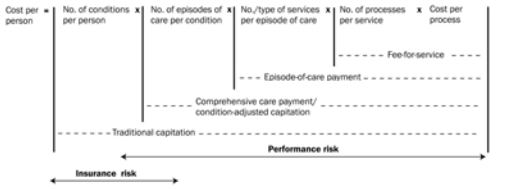
Learning to manage risk

EXHIBIT 1
Variables For Which The Provider Is At Risk Under Alternative Payment Systems



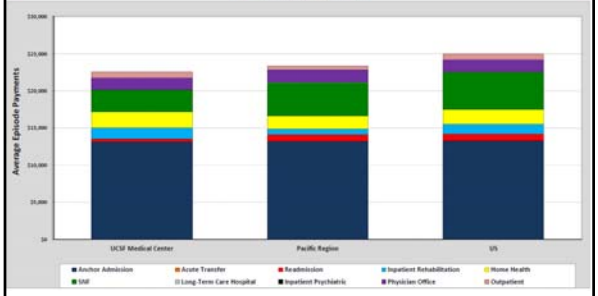
SOURCE: Author's analysis.

Miller H D Health Aff 2009;28:1418-1428

HealthAffairs

DRG 470: Major Joint Replacement or Reattachment of Lower Extremity w/o MCC (106 total episodes)

Benchmark Comparison Tables



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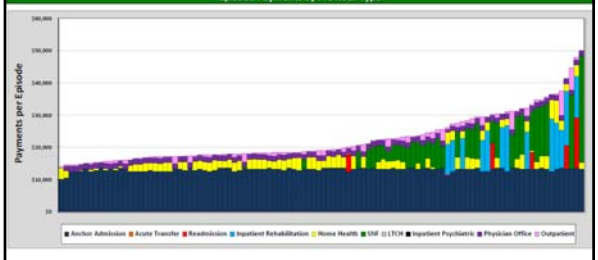
Episode Payments by Provider Type



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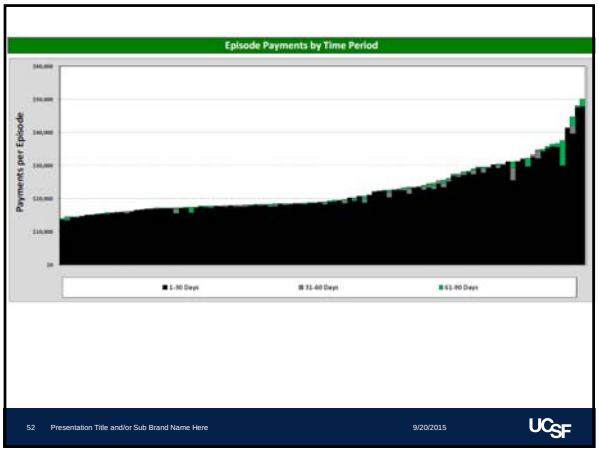

Surgical Warranties to Improve Quality and Efficiency in Elective Colon Surgery

Donald E. Fry, MD; Michael Pine, MD, MBA; Barbara L. Jones, MA; Roger J. Meimban, PhD

Personalize *and* standardize.

TKA: innovation that has improved recovery and ROM in my patients

1. PAIN CONTROL (hemostasis and pre-emptive pain management) - early
2. Early mobilization without weight bearing restrictions - early
3. Balancing the knee – long term

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Strategies to balance the knee

Measured resection	Gap balancing
• Common in primary TKA	• Common in primary TKA
• Ligaments balanced after bone cuts	• Ligaments balanced before bone cuts
• Requires intact skeletal references	• Requires awareness of joint line
• Not ideal for cases of bone loss	• Can be used in cases of bone loss

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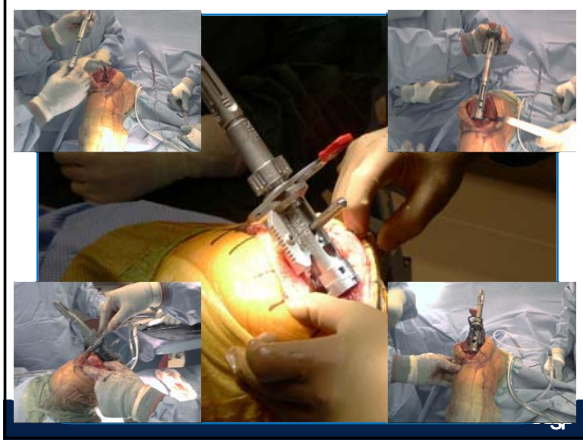

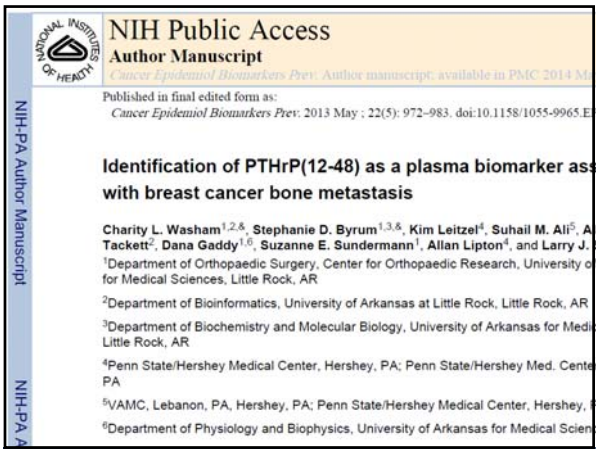

NIH Public Access
Author Manuscript
Cancer Epidemiol Biomarkers Prev. Author manuscript; available in PMC 2014 M

Published in final edited form as:
Cancer Epidemiol Biomarkers Prev. 2013 May ; 22(5): 972–983. doi:10.1158/1055-9965.E

Identification of PTHrP(12-48) as a plasma biomarker ass with breast cancer bone metastasis

Charity L. Washam[1,2,&], **Stephanie D. Byrum**[1,3,&], **Kim Leitzel**[4], **Suhail M. Ali**[5], **A Tackett**[2], **Dana Gaddy**[1,6], **Suzanne E. Sundermann**[1], **Allan Lipton**[4], and **Larry J.**
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[2]Department of Bioinformatics, University of Arkansas at Little Rock, Little Rock, AR
[3]Department of Biochemistry and Molecular Biology, University of Arkansas for Medi Little Rock, AR
[4]Penn State/Hershey Medical Center, Hershey, PA; Penn State/Hershey Med. Cente PA
[5]VAMC, Lebanon, PA, Hershey, PA; Penn State/Hershey Medical Center, Hershey,
[6]Department of Physiology and Biophysics, University of Arkansas for Medical Scien

Research priorities.

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ORS Orthopaedic Research Society

Board of Specialty Societies Workshop
ORS 2016 Annual Meeting
March 5-8, 2016 (Saturday -Tuesday) – Disney's Coronado Springs Resort

Total knee arthroplasty is a both a very common and fast growing part of orthopaedic practice. Due to the associated costs and frequency of total knee procedures in the United States, there is a high priority placed upon optimization of outcome, minimizing complications, and assessing performance. **Three areas of focus have been identified as having both a clinical priority and high degree of relevance to orthopaedic research: performance measures and outcome, peri-prosthetic infection, and optimization of surgical technique.**

Education priorities.

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Alignment in education: residency training, certification, and practice

- Incorporate assessment of outcomes/skills
- Avoid "add on" incremental work
- Should be objective, reflective and non-punitive
- Actively encourage surgeon involvement
- Include hospital system care improvement

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Knee Arthritis – a case study in future practice

- Accept/understand change
- Acknowledge threats
- Take action
- Define practice
- Measure results
- Innovate (measure results again!)
- Prioritize research
- Align education


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