

## The Bundle Care Initiative: How it Relates to Spine Surgery

# Rick C. Sasso MD

Professor  
Chief of Spine Surgery  
Clinical Orthopaedic Surgery  
Indiana University School of Medicine

Disclosure: Research support-Medtronic, Stryker,  
AO, Cerapedics, Smith & Nephew, Lilly  
Royalties-Medtronic, Saunders Elsevier



Indiana  
Spine  
Group

---

---

---

---

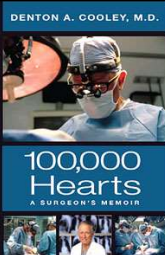
---

---


---

---


## Bundled Payments



1985-flat fee for CABG surgery at THI was \$13,800 as opposed to average Medicare payment of \$24,588



Patient Protection and Affordable Care Act 2010  
Bundled Payments for Care Improvement (BPCI) initiative  
Medicare pilot program starting in 2013  
48 DRGs-including spine



Indiana  
Spine  
Group

---

---

---

---

---


---

---

---

## Mandatory Proposal

July 2015-  
mandate a 90-day bundled payment model as a new program for Medicare beneficiaries undergoing **joint replacement** called the Comprehensive Care for Joint Replacement initiative



Health Care Special Report  
**TIME**  
Paging Dr. Obama

---

---

---

---

---

---

---

---

**HHS secretary Dr. Tom Price**



Aug 15, 2017:  
**CMS cancels mandatory episode payment models, cuts participation in joint replacement model**

BULLETIN REPRESENT.US Indiana Spine Group

---

---

---

---

---

---

---

---

**January 10, 2018**  
**CMS-a new voluntary bundled payment model**

**Bundled Payments for Care Improvement- Advanced**

32 clinical episodes: 29 in the inpatient setting, 3 outpatient

clinical episode will end 90 days after the end of the anchor stay or the anchor procedure

7 quality measures for BPCI Advanced. 2 of them, the all-cause hospital readmission measure and the advanced care plan measure, will be required for all clinical episodes

start participation in the model Oct. 1  
until March 12 to apply

BULLETIN REPRESENT.US Indiana Spine Group

---

---

---

---

---

---

---

---

**BREAKING:**



**SECRETARY OF HEALTH  
TOM PRICE HAS  
RESIGNED**

BULLETIN REPRESENT.US Indiana Spine Group

---

---

---

---

---

---

---

---

## BPCI Advanced

### Voluntary

Retrospective bundle payment with **90 day** clinical episode duration

Preliminary **target prices** provided in advance

Payment tied to performance on quality measures

Requires financial risk



---

---

---

---

---

---

---

---

Reconciliation will be a semi-annual process where CMS will compare the aggregate Medicare FFS expenditures for all items and services included in a Clinical Episode against the **Target Price** for that Clinical Episode to determine whether the **Participant** is eligible to receive a payment from CMS, or is required to pay a Repayment Amount to CMS



---

---

---

---

---

---

---

---

## Participant

Acute care hospitals

Physician group practices



---

---

---

---

---

---

---

---

## 29 inpatient clinical episodes

Cervical spinal fusion  
471 with major complication or comorbidity  
472 with complication or comorbidity  
473 without complication or comorbidity

Spinal fusion (non-Cervical)  
459 with major comp. or comorb.  
460 without major comp. or comorb.

Combined anterior posterior spinal fusion  
453 with major complication or comorbidity  
454 with complication or comorbidity  
455 without complication or comorbidity

Complex Spinal fusion non cervical  
456 with spinal curvature/malignancy/infection or 9+ fusions with major comp. or comorbid.  
457 with spinal curvature/malignancy/infection or 9+ fusions with comp. or comorb.  
458 with spinal curvature/malignancy/infection or 9+ fusions without comp. or comorbid.

Back and neck except spinal fusion  
518 with major comp. or comorb. or disc device/neurostimulator  
519 with complications or comorbidities  
520 without comp. or comorb.

Medical non-infectious orthopedic  
551 medical back problems with major comp. or comorbid.  
552 medical back problems without comp. or comorbid.



---

---

---

---

---

---

---

---


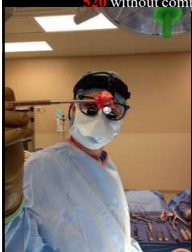
---

---

## 3 outpatient clinical episodes

### Back and neck except spinal fusion

518 with major comp. or comorb. or disc device/neurostimulator  
519 with complications or comorbidities  
520 without comp. or comorb.



---

---

---

---

---

---

---

---

---

---

## HHS secretary nominee Alex Azar

Senate confirmation hearing-Jan 10, 2018:

mandatory pilots are necessary for effective testing



---

---

---

---

---

---

---

---


---

---

**Variations in Medicare Payments for Episodes of Spine Surgery**

Episode payments for hospitals in the highest quintile were more than twice as high as those made to hospitals in the lowest quintile (\$34,171 vs \$15,997)

Schoenfeld, Harris *Spine J* 2014



---

---

---

---

---

---

---

---

Spine HEALTH SERVICES RESEARCH

SPINE Volume 39, Number 15, pp 1235-1242 ©2014, Lippincott Williams & Wilkins

**Spinal Surgery**

*Variations in Health Care Costs and Implications for Episode-Based Bundled Payments*

Beatrice Ugiliveneza, PhD, MSPH,\* Maïying Kong, PhD,† Kristin Nosova, MBA, BS,\* Kevin T. Huang, BA,† Ranjith Babu, MS,† Shivanand P. Lad, MD, PhD,† and Maxwell Boakye, MD, MPH, MBA\*

Significant cost variation within DRGs  
Hospital payment 76% of bundle  
Post discharge care small portion of bundle



---

---

---


---

---

---

---


---



**90 day bundle payment lumbar decompression**

Facility 60-74%  
Surgeon 13-18%  
Post-acute services 9-15%

Jain et al *Clin Spine Surg* 2017



---

---

---

---

---

---

---

---

Spine  
HEALTH SERVICES RESEARCH

MSPJ Volume 43, Number 3, pp 191-200  
© 2018 Wolters Kluwer Health, Inc. All rights reserved.

### Ninety-Day Reimbursements for Primary Single-Level Posterior Lumbar Interbody Fusion From Commercial and Medicare Data

Nikhil Jain, MD,\* Frank M. Phillips, MD,† and Safdar N. Khan, MD\*

Hospital costs 75-77% total payments  
Surgeons fees 12-13%  
Readmission rare-but very expensive  
Inpatient higher cost than outpatient (p=0.02)

Indiana Spine Group

---

---

---

---

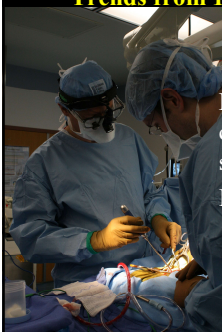
---

---

---

---

### Surgeon Reimbursement Relative to Hospital Payments for Spinal Fusion: Trends from 10-year Medicare Analysis



Hospital had successively higher charges and payments relative to surgeon from 2005-2014  
Inverse relation to length of stay

Jain Spine 2018

Indiana Spine Group

---

---

---

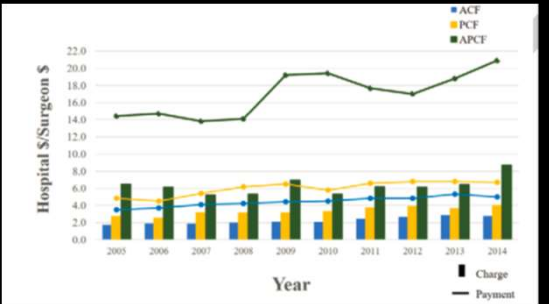
---

---

---

---

---



Reimbursement to hospital relative to surgeon 53% higher in 2014 than 2005

Indiana Spine Group

---

---

---

---

---

---

---

---

### 2014

ACF hospital charged \$2.8 for each dollar charged by surgeon; hospital reimbursed \$5.0 for each dollar reimbursed by surgeon

PCF hospital charged \$4.0 for each dollar charged by surgeon; hospital reimbursed \$6.7 for each dollar reimbursed by surgeon

APCF hospital charged \$8.7 per surgeon dollar; hospital reimbursed \$20.9 for each dollar earned by surgeon

Indiana Spine Group

---

---

---

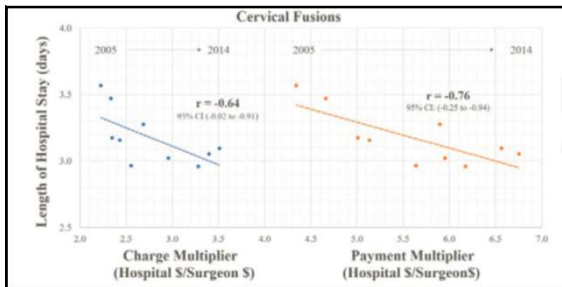
---

---

---

---

---



All occurred despite decreasing length of hospital stay

Indiana Spine Group

---

---

---

---

---

---

---

---



**Bundled payment reimbursement for anterior and posterior approaches for cervical spondylotic myelopathy: an analysis of private payer and Medicare databases**

Posterior more expensive  
Rehab higher in posterior  
Hospital more than double surgeon  
*Virk J Neurosurg Spine 2017*

Indiana Spine Group

---

---

---

---

---

---

---

---

Aspect of Care	Average reimbursement per patient – ACF Medicare	Average reimbursement per patient – Posterior approach Medicare	P Value
Hospital/Inpatient Reimbursement (including inpatient hospitalization, inpatient lab tests, inpatient imaging)	\$12,392 (+/- \$657)	\$15,260 (+/- \$411)	0.0045
Intra-Op Surgeon Reimbursement	\$3,144 (+/- \$60)	\$3,631 (+/- \$95)	0.005
Rehabilitation/Skilled Nursing Care Facility Reimbursement	\$1,379 (+/- \$166)	\$4,828 (+/- \$309)	<0.0001
Intra-Op Anesthesiology	\$388 (+/- \$24)	\$469 (+/- \$12)	0.0005
Revision/Readmission and Emergency Department reimbursement	\$419 (+/- \$18)	\$999 (+/- \$120)	0.018

Indiana Spine Group

---

---

---

---

---

---

---

---

---

---

**FFS vs BPCI**

- Orthocarolina Group- C-spine fusion surgery, 2009-15
- DRG 471 w/MCC, 472 w/CC, 473 no/CC

– BPCI significantly associated with 10% higher total expenditure

- Cervical spine bundles based on DRG not ideal due to relatively high variability in disease complexity-CPT design more appropriate

CSRS, Toronto, 2016

Indiana Spine Group

---

---

---

---

---

---

---

---

---

---

**FIVE FATAL FLAWS OF THE BPCI INITIATIVE**

1. Hospital-Centricity (DRG)  
CPT better?
2. Lack Of Severity Adjustment  
ASA score  
BMI  
co-morbidities (diabetes, HIV)
3. Encouraging Hospitalizations For Acute Exacerbations
4. Weak Ties To Quality Measures  
Perioperative ATB
5. Moving Goalposts  
Bundle payment changes

Indiana Spine Group

---

---

---

---

---

---

---

---

---

---



