

# Health Policy Fellow Report

## Risk Adjustment

2016 AAHKS Annual Meeting

P. Maxwell Courtney, MD

AAHKS Health Policy Fellow

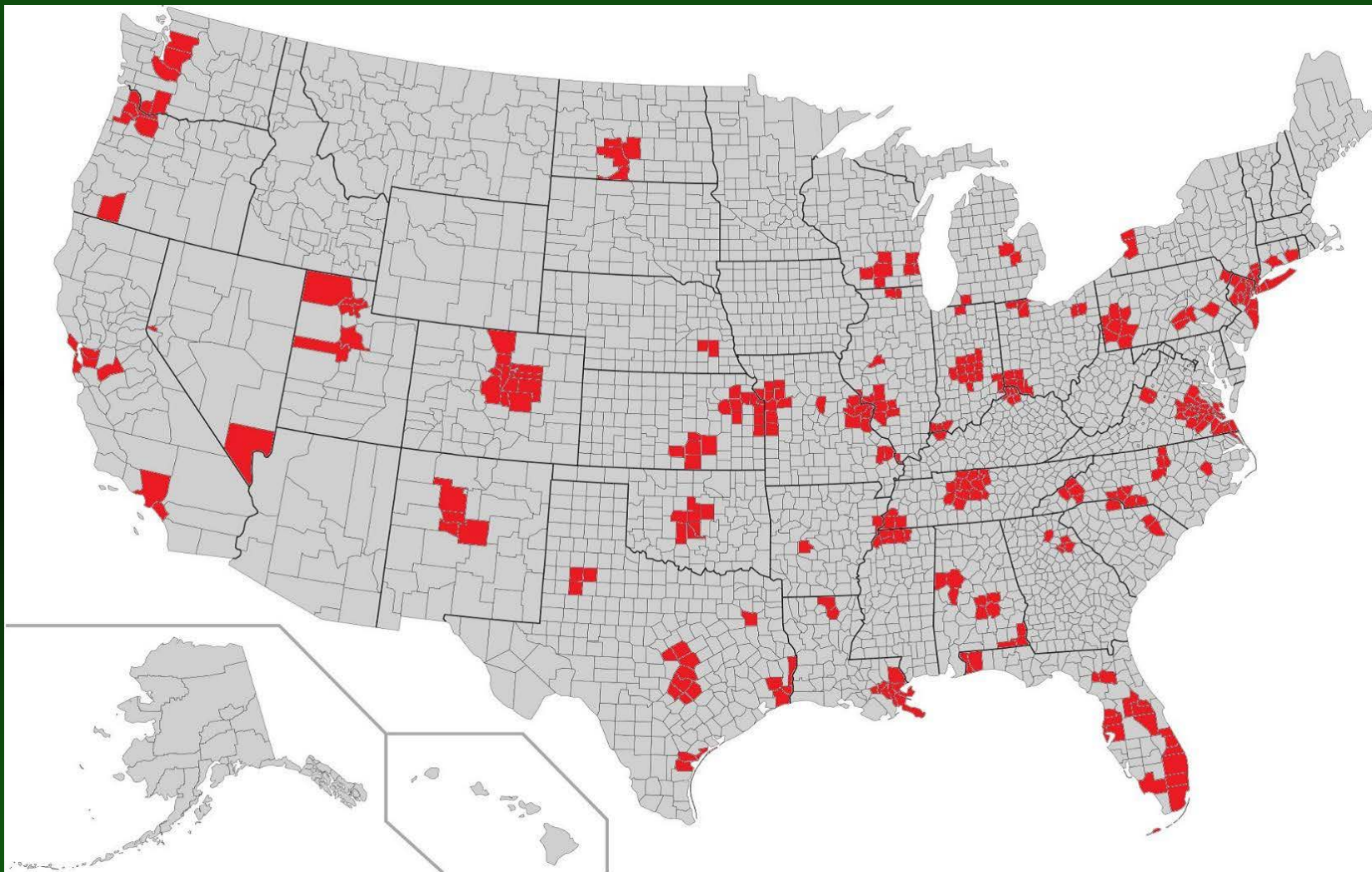
# Cost burden of TJA



- 400k TKA and THA among Medicare patients
- \$7 billion in 2014
- Largest single Medicare expenditure

# CJR

Adult Reconstruction Service

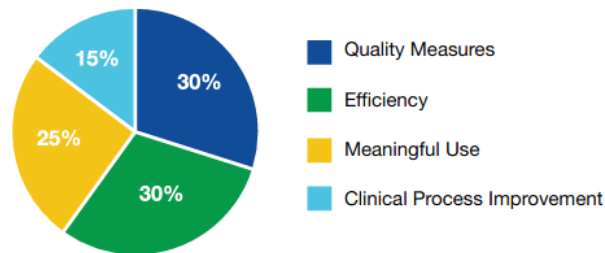


# PQRS – MACRA – MIPS

- Limited Risk-adjustment in CMS Programs



2019 MIPS Program %\* Weight



\* Percentages reflect MIPS program weights for provider grading purposes.

Reimbursement Implications

Year	Penalty Cap	Value-Based Bonus Opportunity (subject to scaling factor)
2019	-4%	Up to +12%
2020	-5%	Up to +15%
2021	-7%	Up to +21%
2022	-9%	Up to +27%

# Cause for Concern?



Contents lists available at ScienceDirect

## The Journal of Arthroplasty

journal homepage: [www.arthroplastyjournal.org](http://www.arthroplastyjournal.org)



### Bundled Payment in Total Joint Care: Survey of AAHKS Membership Attitudes and Experience with Alternative Payment Models



Atul F. Kamath, MD <sup>a</sup>, Paul M. Courtney, MD <sup>a</sup>, Kevin J. Bozic, MD, MBA <sup>b</sup>, Samir Mehta, MD <sup>c</sup>, Brian S. Parsley, MD <sup>d</sup>, Mark I. Froimson, MD, MBA <sup>e</sup>

- 1594 AAHKS members surveyed
- 94% concerned about access to care
- What does this mean???

**No risk stratification for  
complex patients or  
socioeconomic status**

# Orthopaedic Risk Adjustment

Clin Orthop Relat Res  
DOI 10.1007/s11999-016-4868-2

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SYMPOSIUM: 2016 HIP SOCIETY PROCEEDINGS

## The Frank Stinchfield Award

### Total Hip Arthroplasty for Femoral Neck Fracture Is Not a Typical DRG 470: A Propensity-matched Cohort Study

William W. Schairer MD, Joseph M. Lane MD, David A. Halsey MD, Richard Iorio MD,  
Douglas E. Padgett MD, Alexander S. McLawhorn MD, MBA

- NSQIP Database 2007-2013
- Matching 953 elective THA vs. 953 THA for FNF

# Risk Adjustment for Hip Fractures

- THA for FNF associated with:
- Increased complications (OR 2.8, CI 2.1– 3.8,  $p < 0.001$ ),
- Readmission (OR, 1.8, CI 1.0–3.2,  $p = 0.049$ )
- Discharge to an inpatient facility (OR, 1.7, CI, 1.4–2.0,  $p < 0.001$ ).



# Risk Adjustment for Hip Fractures

- Under CJR, hip fractures will be given own target prices
  - MS-DRG 469 w/o fracture
  - MS-DRG 469 w/ fracture
  - MS-DRG 470 w/o fracture
  - MS-DRG 470 w/ fracture

<u>Sample Hospital</u>	<u>DRG 470 w/o fx</u>	<u>DRG 470 w/ fx</u>
Adjusted Spending	\$23,981	\$41,062
% Total MS-DRG 470 episodes	88	12
90-day readmission	8%	19%
Mean length of stay	2.8 days	5.1 days
Dispo to SNF	19%	64%

# Socioeconomic Status

Adult Reconstruction Service



Contents lists available at [ScienceDirect](#)

## The Journal of Arthroplasty

journal homepage: [www.arthroplastyjournal.org](http://www.arthroplastyjournal.org)



### Original Article

## Socioeconomic Risk Adjustment Models for Reimbursement Are Necessary in Primary Total Joint Arthroplasty

P. Maxwell Courtney, MD <sup>a,\*</sup>, James I. Huddleston, MD <sup>b</sup>, Richard Iorio, MD <sup>c</sup>, David C. Markel, MD <sup>d</sup>

- MARCQI registry
- 4,168 primary TJA patients
- Income data from US Census

# 90-day Readmission

<u>Patient Risk Factor</u>	<u>Odds Ratio</u>	<u>95% Confidence Interval</u>	<u>P value</u>
Female Gender	0.68	0.54-0.85	0.001
Bottom quartile household income	1.50	1.15-1.96	0.003
Age > 75 years	3.37	1.86-3.01	<0.001
Chronic Kidney Disease	1.07	0.74-1.55	0.713
BMI > 35 kg/m <sup>2</sup>	1.56	1.21-2.01	0.001
Total Hip Arthroplasty	1.35	1.07-1.71	0.011
Diabetes Mellitus	1.44	1.10-1.90	0.008

# Prolonged Length of Stay (> 3d)

<u>Patient Risk Factor</u>	<u>Odds Ratio</u>	<u>95% Confidence Interval</u>	<u>P value</u>
Female Gender	1.35	1.02-1.78	0.035
Bottom quartile household income	2.34	1.78-3.07	<0.001
Age > 75 years	2.20	1.68-2.87	<0.001
Chronic Kidney Disease	0.83	0.54-1.30	0.433
BMI > 35 kg/m <sup>2</sup>	1.43	1.08-1.89	0.012
Total Hip Arthroplasty	1.01	0.77-1.33	0.917
Diabetes Mellitus	1.21	0.88-1.66	0.219

# Dispo to SNF or Rehabilitation

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<u>Patient Risk Factor</u>	<u>Odds Ratio</u>	<u>95% Confidence Interval</u>	<u>P value</u>
Female Gender	1.60	1.33-1.92	<0.001
Bottom quartile household income	1.64	1.34-2.01	<0.001
Age > 75 years	6.12	5.13-7.31	<0.001
Chronic Kidney Disease	0.99	0.75-1.31	0.992
BMI > 35 kg/m <sup>2</sup>	1.60	1.32-1.94	<0.001
Total Hip Arthroplasty	1.39	1.16-1.66	<0.001
Diabetes Mellitus	1.28	1.03-1.59	0.022

# Lowest SES associated with high episode-of-care cost outcomes

# Bundled Payment for Revisions?

Clin Orthop Relat Res  
DOI 10.1007/s11999-016-4953-6

Clinical Orthopaedics  
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CLINICAL RESEARCH

## Are Bundled Payments a Viable Reimbursement Model for Revision Total Joint Arthroplasty?

P. Maxwell Courtney MD, Blair S. Ashley MD, Eric L. Hume MD,  
Atul F. Kamath MD

- 218 Revision TJA patients
- BPCI initiative from 10/2013 to 3/2015

# Bundled Payment for Revisions?

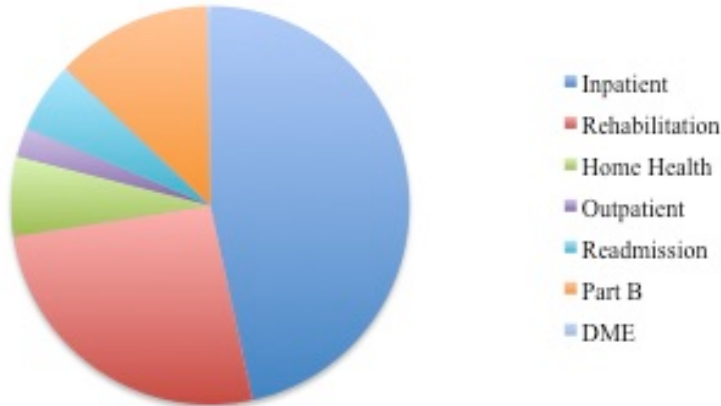
- BPCI group had lower index hospitalization reimbursement (\$17,754 vs. \$18,316,  $p = 0.030$ ).
- No difference in episode-of-care CMS payments (\$38,107 vs. \$37,851,  $p=0.984$ )



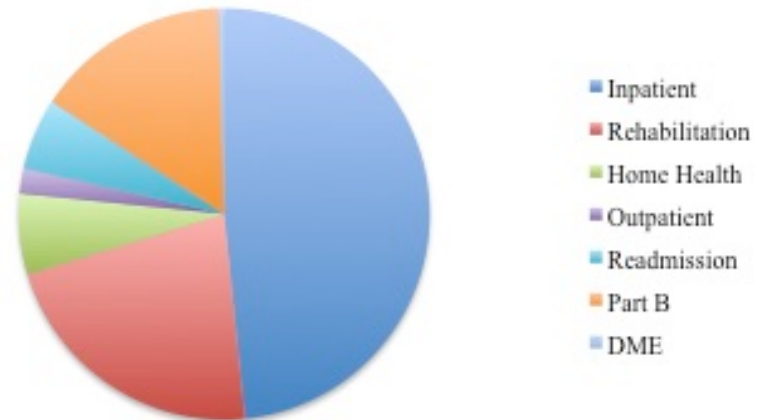
# Bundled Payment for Revisions?

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### Bundled Payment Group



### Non-Bundled Payment Group



# Adjust for Conversion THA?

## Alternative Payment Models Should Risk-Adjust for Conversion Total Hip Arthroplasty: A Propensity Score-Matched Study

Alexander S. McLawhorn, MD, MBA, William W. Schairer, MD, Ran Schwarzkopf, MD, MSc, David A. Halsey, MD, Richard Iorio, MD, Douglas E. Padgett, MD

- NSQIP database
- Conversion THA had increased complications, infection, death, dispo to rehab (all  $p < 0.05$ ) vs. primary THA

# Final Word

- Capture risk variables
- Arthroplasty specific databases
- Surgeons should drive the conversation

# Thank You

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