



2020 AAHKS Legislative Retreat
February 25 – 27, 2020

Eaton DC Hotel
 1201 K St NW, Washington, DC 20005

Agenda

Session Times Subject to Change to Accommodate Meetings

Tuesday, February 25 The Salon – 2 nd Floor		
7:00 – 8:00 PM	Welcome Dinner Eaton DC	General political update: Latest prospects for the election
Wednesday, February 26 Crystal Room – 1 st Floor		
6:30 – 7:30 AM	Breakfast Served	
7:00 – 7:10 AM	Welcome & Retreat Overview	Michael P. Bolognesi, MD – President / James “Hutch” Huddleston, MD – Health Policy Chair
7:10 – 7:40 AM	Misvalued Code Priority – Deep Dive Update on Action to Date and How CMS May be Persuaded	Philo D. Hall, JD – Epstein Becker & Green, P.C.
7:40 – 8:10 AM	Update from the Hill	Rep. Kim Schrier M.D. (D-WA), Co-Chair of the New Democrat Health Care Task Force, Member of the Education & Labor Committee
8:10 – 8:40 AM	Brief on Carrying Misvalued Code Message on the Hill	David McNitt, National Health Advisors
8:40 – 8:50 AM	Break into Groups & Prep for Departure	
Depart for Hill as Needed		
10:00 AM – 4:30 PM	Delegations to Meet with Congressional Offices	
5:00 – 6:30 PM	Capitol Hill Reception with Rep. Phil Roe (R-TN) Doc Caucus Chairman, Veterans Affairs Committee Ranking Member & Member of Education & Labor Committee	The Reserve Officers Association Building Atrium, 1 Constitution Ave NE (Across the street from Dirksen Senate Building)
7:00 – 9:00 PM	Attendee Dinner	Clyde’s Gallery Place (707 7th Street, NW, 0.6 miles from Eaton DC)
Thursday, February 27 Crystal Room – 1 st Floor		
6:45 AM	Breakfast	
7:00 – 7:05 AM	Welcome & Recap	Dr. Bolognesi

7:05 – 7:40 AM	Debrief from Hill Visits and Next Steps on Misvalued Codes	Each Group Reports
7:40 – 7:55 AM	Orthopaedic PAC Update	Stacie Monroe, Orthopaedic PAC / Meredith Allison, AAOS Corporate Political Outreach Manager
7:55 – 8:25 AM	Next Steps in Medicare Value Based Care – CJR, BPCI-A, and Longitudinal Bundles	Dr. Huddleston, Philo Hall, Ebby Aniyikaiye
8:25 – 8:40 AM	Update on the 2 Midnight Rule: CMS Guidance on TKA and Reaction to New THA Outpatient Admissions	Philo Hall and Dave McNitt
8:40 – 9:10 AM	Overview of HHS/CMS Flexibility in the AKS/Stark Proposed Rules	Jennifer Michael, JD – Epstein Becker & Green, P.C.
9:10 – 9:30 AM	BREAK	
9:30 – 10:10 AM	Update from Administration on Value-Based Care	Brendan Fulmer, Advisor to the Secretary for Value-Based Care and Innovation, Department of Health & Human Services
10:10 – 10:20 AM	2019 AAHKS Advocacy in Review & 2020 AAHKS Advocacy Priorities and Timeline	Philo Hall and Dave McNitt
10:20 – 10:50 AM	The Future of Medicare: How Might Health Agenda Change Based on Who Wins the Election?	Lynn Snyder, JD – Epstein Becker & Green, P.C.
10:50 – 10:55 AM	Follow Up Plan	Dr. Bolognesi, Philo Hall and Dave McNitt
10:55 – 11:00 AM	Closing Remarks & Adjournment	Dr. Bolognesi

Meeting Logistics

Meeting duration: Meetings will typically last 30 minutes, so it's important to focus on a few topics of conversation. Don't be surprised if a meeting is cut short; the Congressional schedule is unpredictable.

Meeting location: Space on Capitol Hill is limited. You could meet in a Congressman's personal office, but don't be offended if the meeting happens standing in the hallway (the big conference room).

Getting Around: The House side and Senate side are on opposite ends of the Capitol. The buildings are connected underground on each side, but allow for 30 minutes to go between the House and Senate. (See Map)

Speaking with Congressional Staff

Take time to introduce yourself: Federal audiences care about who is saying something as much as what they are saying. Before jumping into the issues, spend a few minutes on introductions & AAHKS background.

Expect a conversational format: Questions, requests for clarification, even a few laughs are normal. You're there to engage meaningfully with your Congressional representation; not respond to a subpoena.

Expect Varying Degrees of Expertise: Some staff will have an in-depth knowledge of AAHKS issues, but most will benefit from a reminder of key terms. (e.g. they might not immediately recall what "BPCI" is).

Do's & Don'ts

Don't worry if you don't know the answer to a question. Just let the staff know that AAHKS will get back to them with their requested information (and let AAHKS staff or Lobbyist know).

Don't get too political: It's best to play it safe, and keep to policy topics and relevant anecdotes from your experience.

Do follow up: Advocacy is an exercise in repetition. It takes time to build familiarity, and a relationship. A good start is sending folks a quick note of thanks, mentioning some of the issues you discussed.



What to Bring

Your perspective: You don't have to be an expert on all-things Washington DC. Be an expert on your personal experience as a surgeon.

AAHKS Materials: Stacks of paper can be unwieldy in a meeting. AAHKS will provide a 1-2 page Congressional Issue Brief to help guide topics of conversation.

Business Cards: Not all offices will ask for business cards; most won't. However, it's helpful to Congressional staff to keep track of who you are.

Map of the Capitol



AAHKS is asking Congress to ensure that physicians leading the way in value-based care are not inadvertently penalized for high levels of participation in Medicare APMs.

Please sign on to the attached bipartisan letter led by Congresswoman Sewell and Congressman Wenstrup urging CMS not to propose cuts to Medicare total joint replacement.

AAHKS LEADING VALUE-BASED CARE

- Hip & knee surgeons are *approaching 50% participation in alternative payment models (APMs)*: the highest rate of any subspecialty.
- APMs such as Medicare Bundled Payments for Care Improvement (BPCI) and Comprehensive Joint Replacement (CJR) models make health care providers & physicians responsible for a patient over a 30/90-day episode of care.
- Physician-led APMs have improved outcomes, reduced patient time spent in the hospital and saved Medicare hundreds of millions of dollars.
- These outcomes have been achieved by physicians working to optimize patient health weeks and months prior to their surgery to ensure they realize the best surgical outcomes.
- AAHKS members are hitting the speed bumps on the road to value based care first, and the hardest.

THE APM-FFS DISINCENTIVE

- The AMA/Specialty Society RVS Update Committee (RUC) is an advisory Committee to CMS for setting the Medicare reimbursement for physician services.
- The RUC methodology only recognizes work done 24 hours prior to a surgical procedure and 90 days after. Subsequently, it cannot recognize all the pre-service work incentivized over the weeks/months in APMs, but does recognize the resulting shorter hospitalizations and fewer post-operative doctor visits.
- CMS is evaluating RUC recommendations as it prepares the 2021 Medicare Physician Fee Schedule Proposed Rule. AAHKS has shared data that shows the increased pre-operative work in hip and knee surgery.
- If CMS were to propose a cut, it would create a disincentive, contrary to the success achieved in reducing hospital length of stay, postoperative rehabilitation, and complications in hip and knee patients.
- If the changes to physician workflow in a 90 day bundle cannot be appropriately recognized, then it raises concerns about CMS's 2-year osteoarthritis disease-state APM.
- Although the RUC is bound by its current process, CMS can fix this problem simply by maintaining the current Medicare rates for hip and knee replacement surgery. This has no cost implications to Medicare, as all changes in the value of medical procedures are relative and come out of a fixed allocation of funds.
- The value of robust APM participation outweighs the cost of fee-for-service cuts. It would set a bad precedent if APM participation caused fee-for-service cuts.

ABOUT AAHKS

ABOUT: Established in 1991, the American Association of Hip and Knee Surgeons (AAHKS) is the foremost national specialty organization of more than 4,300 physicians with expertise in total knee arthroplasty (TKA) and total hip arthroplasty procedures (THA).

MISSION: To advance hip and knee patient care through education, advocacy and research. Members conduct research in this area and are experts on evidence-based care and the risks and benefits of lower extremity joint conditions.

[Congressional Letterhead]

The Honorable Seema Verma
Administrator
Centers for Medicare & Medicaid Services
U.S. Department of Health and Human Services
Hubert H. Humphrey Building, Room 445–G
200 Independence Avenue, SW
Washington, DC 20201

Dear Administrator Verma:

In the interest of preserving access to care and protecting the proven return on investments in alternative payment models (APMs), we are writing to communicate strong opposition to any Medicare payment cuts for hip and knee replacement surgery in 2021. As CMS considers the recommendations of the American Medical Association/Specialty Society Relative Value Scale Update Committee (RUC), we urge you to maintain the current reimbursement levels for these important procedures.

Hip and knee surgeons have been at the forefront of the transition to value-based models of care. They were early voluntary adopters of the Bundled Payments for Care Improvement (BPCI) model, where physician-led bundles have improved care and reduced costs. Their procedures were also the first to be subjected to a mandatory CMMI APM: the Comprehensive Care for Joint Replacement Model (CJR). CMS is in the pre-determination phase of a new global payment model for osteoarthritis which will result in even more hip and knee surgeons joining innovative models of care. There is no other subspecialty with a greater level of participation in APMs.

We are concerned that any cuts proposed by CMS sends a message to physicians that high levels of participation in APMs will result in punitive compensation cuts for their services. Due to the limitations of the current RUC process, evidence cannot be considered that demonstrates that orthopedic surgeons are dedicating more time to improve patient outcomes under value-based models of care. The American Association of Hip & Knee Surgeons (AAHKS) and American Academy of Orthopaedic Surgeons (AAOS) developed a study that would account for the time commitment needed for delivery of value-based patient care, but current RUC methodology does not allow for recognition of this time surgeons and their teams spend to “preoptimize” their patients, even though it has been demonstrated that this care is taking place. In an independent survey of AAHKS members, it was found that more than 98% of respondents are providing some level of preoptimization.¹ We strongly urge CMS to accept the data provided by AAHKS and AAOS which validate current funding levels and support the goal of increasing APM participation and recognition of the increase in required surgeon-effort to help their hospitals in the CMS value based purchasing paradigm that is uniquely focused on total hip and knee quality, readmissions, and cost, regardless of APM status.

¹ Surgeons’ Pre-Operative Work Burden Has Increased Prior to Total Joint Arthroplasty: A Survey of AAHKS Members, Grosso, Matthew J. et al., The Journal of Arthroplasty, forthcoming 2020.

In addition to an evolving APM environment discussed, hip and knee surgeons are navigating extensive changes to how Medicare regulates and reimburses orthopedic surgery. CMS made total knee replacement surgery available in the outpatient setting for the first time in 2018 and has just finalized a rule to allow for the procedure in Ambulatory Surgery Centers beginning this year. Medicare beneficiary total hip replacement surgery will also be covered in outpatient settings for the first time in 2020. Layering additional cuts on all of these recent changes would be highly disruptive.

We respectfully urge you to maintain current reimbursement levels for hip and knee replacement surgery. As physicians like hip and knee surgeons move into APMs we must ensure that our legacy fee-for-service processes are reconciled with the reality that time and energy are required to deliver value-based care.

Thank you for your attention to our concerns and we look forward to working with you on this issue.

Sincerely,

[R Sponsor/D Sponsor/Co-sponsors]

CC: Demetrios Kouzoukas, Principal Deputy Administrator for Medicare and Director, Center for Medicare
Gift Tee, Director, HAPG, Division of Practitioner Services

Speaker Biographies

Listed Alphabetically

Meredith Allison – Orthopaedic Political Action Committee

Meredith Allison is the Corporate Political Outreach Manager at the American Association of Orthopaedic Surgeons. In this role, she helps run the Orthopaedic PAC, a \$4 million Political Action Committee, one of the largest association PACs in the country and the largest physician PAC disburser. Prior to joining AAOS, Meredith worked as Finance Coordinator on the re-election campaign for Senator Richard Burr, the senior Senator from North Carolina, where she worked to raise over a million dollars in the last four months of the campaign. Meredith earned her BA in Politics and International Affairs from Wake Forest University and currently lives in Washington, DC.

Ebby Aniyikaiye, JD, MBA, MPP – Epstein Becker & Green

Ebunola Aniyikaiye is an Associate in the Health Care and Life Sciences practice, in the Washington, DC, office of Epstein Becker Green. In this capacity she assists health care providers and health care-related companies in connection with government inquiries, audits, and investigations and advises clients on federal and state health care fraud and abuse laws, including the Stark Law and the Anti-Kickback Statute. Ms. Aniyikaiye also advises on the legal and regulatory matters arising under the transition to value-based care reimbursement and accountable care and assists clients with legal issues related to big data analytics and digital health strategies. Ms. Aniyikaiye received her JD and MBA from American University and her Master's in Public Policy from George Mason University. Ms. Aniyikaiye earned her BA in Public Policy Studies at St. Mary's College of Maryland.

Brendan Fulmer – Department of Health & Human Services

Brendan Fulmer serves as Advisor to the Secretary for Value-Based Transformation & Innovation. Prior to his role at HHS, Mr. Fulmer served as a Senior Advisor to Ways and Means Committee on issues including Health Care (Medicare/Medicaid/Pharma/IT), Foreign Policy, Defense, Veterans, and Child Welfare. While on the Hill, he launched the Bipartisan Health Care Innovation Caucus to advance an agenda to better align incentives in health care payments, improve care coordination, and encourage technology integration. Mr. Fulmer graduated from Loyola University Maryland with BA in Political Science.

Philo D. Hall, JD – Epstein Becker Green

Philo Hall is a Senior Counsel in the Health Care and Life Sciences practice of Epstein Becker & Green's Washington, DC, office. Mr. Hall draws upon nearly 20 years' experience to advise plan and provider clients on the legal, policy, and political elements of health care reimbursement and regulation. He previously was Counselor to the Secretary of the US Department of Health and Human Services, where he directly advised the Secretary and led and managed Departmental initiatives on a diverse portfolio of issues. Mr. Hall also earlier served as Associate Director for Health on the White House Domestic Policy Council and as professional staff on the US Senate Committee on Health, Education, Labor, and Pensions. He earned his JD from the Catholic University of America, Columbus School of Law and his BA from the College of the Holy Cross.

David McNitt – Oldaker & Willison Group

David McNitt's is a partner in the government relations firm of Oldaker & Willison. His practice focuses on federal regulatory and legislative matters across a diverse portfolio of health care policy and

budgetary issues. He has represented the interests of health industry associations, medical device manufacturers, physician groups and some of the largest hospital systems in the country on issues that include: Medicare reimbursement, alternative payment models, DME competitive bidding, Medicare quality initiatives, veteran and armed forces health issues, the appropriations process and most major legislative vehicles relative to health policy, including MACRA, PPACA, FDASIA. As an experienced advocacy professional, Mr. McNitt understands the dynamics of working closely with association staff to advance an industry's agenda while providing a strong sense of value to member organizations.

Mr. McNitt grew up in southeastern Pennsylvania, and is an avid Philadelphia sports fan. He left the Keystone state for college and graduated with honors from Tulane University with a BA in Political Science and German. He also studied political science at St. Andrew's University in Scotland.

Jennifer Michael, JD – Epstein Becker Green

Jennifer Michael is a Member of the Firm in the Health Care and Life Sciences practice of Epstein Becker & Green's Washington, DC, office. Ms. Michael focuses her practice on federal and state fraud issues, including anti-kickback, self-referral, false claims, and regulatory compliance. Before joining Epstein Becker Green, Ms. Michael served as Chief of the Industry Guidance Branch at the US Department of Health & Human Services, Office of Counsel to the Inspector General. In that role, she led a team of attorneys responsible for interpreting and applying federal fraud and abuse statutes to a wide variety of arrangements across all segments of the health care industry. Additionally, Ms. Michael provides advice and written legal opinions on matters involving the federal anti-kickback statute, the physician self-referral law (Stark Law), the False Claims Act, and equivalent state fraud and abuse laws and regulations. Ms. Michael earned her JD from the University of Virginia School of Law and her BA from James Madison University.

Stacie Monroe – Orthopaedic Political Action Committee

Stacie Monroe has 14 years of PAC, lobbying, and grassroots experience. In her roles she has increased PAC participation by over 400%, raised over \$15 million for PACs, executed independent expenditures for seven election cycles and launched a corporate donor program that generated multiple six figure donations. She also founded and chairs the Physician and Dentist Candidate Workshop, which has trained over 500 doctors on how to run for elective office. In 2019, Stacie received the Public Affairs Council National Outstanding Association PAC Award.

Lynn Shapiro Snyder, JD – Epstein Becker Green

Lynn Shapiro Snyder is a Senior Member in the Health Care and Life Sciences practice of Epstein Becker & Green's Washington, DC, office. Ms. Snyder has 40 years of experience at Epstein Becker Green, advising clients about federal, state, and international health law issues, including Medicare, Medicaid, TRICARE, compliance, and managed care issues. Her clients include health care providers, payors, pharmaceutical/device manufacturers, and those companies and financial services firms that support the health care industry. She has recently been selected by her peers for inclusion in The Best Lawyers in America® in the field of Health Care Law; named to the Washington, DC Super Lawyers list in the area of Health Care; and recommended by The Legal 500 United States (2014, 2016).

Ms. Snyder is Founder and President of the Women Business Leaders of the US Health Care Industry Foundation. She earned an AB in Economics from Franklin & Marshall College and her JD from the George Washington University National Law Center.

AAHKS 2020 Legislative Retreat Attendees
February 25-27, Eaton DC Hotel, Washington, DC

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Committee Chairs & Vice Chairs							
Dr. Brian	M.	Culp	MD	Young Arthroplasty Group Committee & 2020-2021 Health Policy Fellow	Vice Chair		NJ
Dr. William	G.	Hamilton	MD	Quality Measures Committee	Chair		VA
Dr. Rina		Jain	MD, FRCSC	Women In Arthroplasty Committee	2020 Vice Chair		CA
Dr. Harpal	S.	Khanuja	MD	Humanitarian Committee	Chair		MD
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Dr. Adam	A.	Sassoon	MD, MS	Practice Management Committee & 2015-2016 Health Policy Fellow	Vice Chair		CA
Dr. H. Del		Schutte Jr.	MD	Member Outreach Committee	2020 Chair		SC
Dr. Benjamin	M.	Stronach	MD, MS	Patient and Public Relations Committee	Vice Chair		MS
Dr. Louis	S.	Stryker	MD	Practice Management Committee & 2013-2014 Health Policy Fellow	Chair		CO
Dr. Bradford	S.	Waddell	MD	Young Arthroplasty Group Committee & 2017-2018 Health Policy Fellow	Past Chair		GA
Advocacy Committee Members							
Dr. P. Maxwell		Courtney	MD	Advocacy Committee & Young Arthroplasty Group Committee	Member / 2015-2016 Health Policy Fellow		PA
Dr. Brian	P.	Gladnick	MD	Advocacy Committee	Member		TX
Dr. Brian	A.	Klatt	MD	Advocacy Committee	Member		PA
Dr. Roshan	P.	Shah	MD	Advocacy Committee	Member / 2016-2017 Health Policy Fellow		NY
Dr. Adolph	J.	Yates Jr.	MD, FAOA	Advocacy Committee	AAOS BOS & OrthoPAC Board Liaison		PA
Health Policy Fellows							
Dr. John	P.	Andrawis	MD, MBA	Advocacy Committee	2019-2020 Health Policy Fellow		CA
Dr. Justin	T.	Deen	MD	Advocacy Committee	2020-2021 Health Policy Fellow		FL
Dr. Stephen	M.	Engstrom	MD	Advocacy Committee & Young Arthroplasty Group Committee	2018-2019 Health Policy Fellow		TN
Dr. Nicholas	B.	Frisch	MD, MBA	Young Arthroplasty Group Committee Advocacy Liaison	2017-2018 Health Policy Fellow		MI
Dr. Mohamad		Halawi	MD	Advocacy Committee	2019-2020 Health Policy Fellow		TX
Dr. Vasili		Karas	MD, MS	Advocacy Committee & Young Arthroplasty Group Committee	2018-2019 Health Policy Fellow		IL
Dr. Joseph	J.	Kavolus	MD	Advocacy Committee	2019-2020 Health Policy Fellow		MA
Dr. Chad	A.	Krueger	MD	Advocacy Committee	2020-2021 Health Policy Fellow		PA
Dr. Christine	M.	Pui	MD	Advocacy Committee	2013-2014 Health Policy Fellow		MN
Dr. Sean	S.	Rajae	MD, MS	Advocacy Committee	2020-2021 Health Policy Fellow		CA
Dr. Sharon	L.	Walton	MD	Advocacy Committee	2020-2021 Health Policy Fellow		TX

**AAHKS 2020 Legislative Retreat Attendees
February 25-27, Eaton DC Hotel, Washington, DC**

Guests						
Ms. Meredith		Allison		AAOS	Manager, Corporate Political Outreach	DC
Dr. Joseph	A.	Bosco III	MD	AAOS	1st Vice President	NY
Dr. Shreyasi		Deb	PhD, MBA	AAOS	Senior Manager, Health Policy	DC
Ms. Anna		Hyde	MA	Arthritis Foundation	Vice President of Advocacy and Access	DC
Mrs. Maria		Khanuja	APN	Operation Walk Maryland	Team Leader	DC
Ms. Stacie		Monroe		Orthopaedic PAC	Orthopaedic PAC	DC
Mr. Graham		Newson		AAOS	Director, Office of Government Relations	DC
Dr. William	O.	Shaffer	MD	AAOS	Medical Director	DC
Ms. Julie		Williams		AAOS	Senior Manager, Government Relations	DC
National Health Advisors Staff						
Ms. Eburnola		Aniyikaiye	JD, MBA	National Health Advisors / Epstein Becker & Green P.C.	Associate	DC
Mr. Philo	D.	Hall	JD	National Health Advisors / Epstein Becker & Green P.C.	Senior Counsel	DC
Mr. Jeffrey		Goff		National Health Advisors / Oldaker & Willison Group LLP	Partner	DC
Ms. Jennifer	E.	Michael	JD	National Health Advisors / Epstein Becker & Green P.C.	Member of the Firm	DC
Mr. David	J.	McNitt		National Health Advisors / Oldaker & Willison Group LLP	Partner	DC
Ms. Lynn		Snyder	JD	National Health Advisors / Epstein Becker & Green P.C.	Board of Directors / Member of the Firm	DC
Mr. Drew	B.	Willison		National Health Advisors / Oldaker & Willison Group LLP	Partner	DC
AAHKS Staff						
Mr. Joshua	M.	Kerr	MA	AAHKS Staff	Deputy Executive Director	IL
Mrs. Renalin	J.	Malvar-Ledda		AAHKS Staff	Director of Operations	IL
Ms. Chiara		Rodgers	MPH, CRCC	AAHKS Staff	Director of Research & Humanitarian Activities	IL
Mr. Michael	J.	Zarski	JD	AAHKS Staff	Executive Director	IL



Members by State

State	Total Members	Surgeon Members
AK	6	6
AL	38	35
AR	25	19
AZ	94	86
CA	358	341
CO	76	72
CT	54	49
DC	9	8
DE	5	5
FL	248	230
GA	80	79
HI	13	13
IA	45	41
ID	24	20
IL	179	160
IN	72	83
KS	40	36
KY	46	40
LA	51	46
MA	102	94
MD	89	85
ME	26	19
MI	134	131
MN	83	79
MO	67	59
MS	23	19
MT	11	9
NC	129	116
ND	10	9
NE	29	27
NH	34	33
NJ	89	87
NM	21	19
NV	29	26

NY	263	241
OH	157	142
OK	37	34
OR	58	52
PA	200	183
PR	5	5
RI	14	14
SC	49	47
SD	15	15
TN	77	70
TX	269	245
UT	53	45
VA	126	114
VT	9	10
WA	84	77
WI	75	68
WV	22	20
WY	4	3



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The Journal of Arthroplasty

journal homepage: www.arthroplastyjournal.org

Surgeons' Preoperative Work Burden Has Increased Before Total Joint Arthroplasty: A Survey of AAHKS Members

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Craig J. Della Valle, MD ^c, James I. Huddleston, MD ^d

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ABSTRACT

Background: Implementation of rapid recovery protocols and value-based programs in total joint arthroplasty (TJA) has required changes in preoperative management, such as optimization, education, and coordination. This study aimed to quantify the work burden associated with preoperative TJA care. **Methods:** Two web-based surveys were distributed to surgeon members of the American Association of Hip and Knee Surgeons. The first questionnaire (265 respondents) consisted of questions related to preoperative patient care in TJA and the associated work burden by orthopedic surgeons and their financially dependent health care providers. The second survey (561 respondents) consisted of questions related to relative change in preoperative patient care work burden since 2013.

Results: Greater than 98% of survey respondents reported providing some level of preoperative medical optimization to their patients. The mean amount of reported time spent by the surgeon and/or a qualified health care provider in preoperative activities not included in work captured in current procedural terminology or hospital billing codes was 153 minutes. The mean amount of reported time spent by ancillary clinical staff in preoperative activities was 177 minutes. Most surgeons reported an increase in work burden for total knee (86%) and total hip (87%) arthroplasty since 2013, with a large portion reporting a 20% or greater increase in work (knee 66%, hip 64%).

Conclusion: To provide quality arthroplasty care with marked reductions in complication rates, lengths of stay, and readmissions, members of the American Association of Hip and Knee Surgeons report a substantial preoperative work burden that is not included in current coding metrics. Policy makers should account for this time in coding models to continue to promote pathway improvements.

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Utilization of total hip and knee arthroplasty has increased over the last decade and is expected to continue to rise as the population of the United States ages [1]. In an effort to contain costs and improve care for the growing number of arthroplasty patients, perioperative protocols have evolved significantly. These protocol changes were encouraged by Bundled Payment models and other value-based programs and have led to substantial changes in postoperative total joint arthroplasty (TJA) care. These changes have promoted shorter length of hospital stay, decreased utilization of post-acute care facilities, decreased complications, and

increased patient satisfaction [2–4]. In return, these effects have led to a massive reduction in health care system costs [5].

To obtain these overall positive effects on TJA care, health care providers have implemented several changes in their preoperative protocols. These changes include increased focus on patient screening protocols, increased medical optimization, and increased patient education [6–10]. Under current models, providers can quantify work spent during office appointments with the patient using evaluation and management codes. Work performed from the day before surgery through 90 days after the procedure is quantified through the American Medical Association Relative Value Scale Update Committee. Several studies have quantified the amount of time associated with perioperative and postoperative care [9,11–13]; however, a large portion of the team's efforts to optimize a patient's clinical outcome occurs between the clinic visit

* Reprint requests: Matthew J. Grosso, MD, Department of Orthopaedic Surgery, Rothman Orthopaedic Institute Thomas Jefferson University Hospital, 925 Chestnut St., 5th Floor, Philadelphia, PA 19107.

when the decision for surgical treatment is made and the day before the surgical date. This work, given its fragmented nature, is not easily quantified through evaluation and management codes or the Relative Value Scale Update Committee process and has yet to be addressed in the literature.

Although the work burden of these preoperative optimization protocols has not yet been quantified, the improved outcomes, shorter length of hospital stay, reduced readmission rates, and episode cost savings in alternative payment models after TJA are a direct result of increased preoperative care coordination. The purpose of this study was to quantify the work burden, in health care provider minutes, associated with preoperative TJA care, in the setting of modern low-complication, rapid discharge protocols.

Materials and Methods

Two web-based surveys were developed by the authors and administered using SurveyMonkey, a survey platform for online data collection and analysis. The first questionnaire consisted of questions related to preoperative patient care in TJA and the associated work burden by orthopedic surgeons and their financially dependent health care providers. The second survey consisted of questions related to relative change in preoperative patient care work burden since 2013. The preoperative period was defined as any time from the office visit where the patient elected to pursue total hip arthroplasty or TKA up to the day before surgery. Unless otherwise noted, the questions were specific to total hip and total knee arthroplasty patients with Medicare, who are often older and have more medical comorbidities than a privately insured patient cohort. For questions involving work (ie, time) involved in preoperative care, the questions specifically stated to not include work captured in other current procedural terminology (CPT) or hospital billing codes. Surgeons were asked to quantify their individual time and that of qualified health care providers (physician assistants [PAs] and/or nurse practitioners [NPs]). Work performed by ancillary clinical staff including nurse navigators, surgical optimizers, medical assistants (MAs), and surgery schedulers was tracked separately.

A link to the surveys was distributed to all members of American Association of Hip and Knee Surgeons. For the first survey, 265 surgeons responded corresponding to a response rate of 8.3%. For the second survey, 561 surgeons responded corresponding to a response rate of 20%.

The responses were anonymous. Statistical analyses were performed with SPSS (IBV v23.0, Chicago, IL) and Excel (Microsoft, Redmond, WA). Descriptive statistics including mean, standard deviation, and median values were reported for all continuous variables. Percentiles and sample size were reported for categorical variables.

Results

Preoperative Optimization Involvement

Survey respondents were asked questions regarding preoperative optimization for patients scheduled for TJA. Greater than 98% (260/265) of survey respondents reported providing at least some level of preoperative medical optimization to their patients. Of the 98%, the majority (79%, 209/265) provide optimization for all patients, and 19% (51/265) provide it for those with elevated risk factors.

For the patients who receive preoperative optimization, the treating surgeon was involved in the care 81% (211/261) of the time. Additional health care providers involved include the surgeon's PA or NP (51%, 132/261), and other clinical staff such as a registered

nurse (RN) or MA (41%, 107/261). Of note, 94% (247/264) of survey respondents do not bill Medicare for any preoptimization services.

Amount of Time in the Preoperative Setting

Survey respondents were asked to quantify the amount of time spent by the surgeon and/or a qualified health care provider (eg, PA, NP) on planning, preparation, optimization, and care coordination activities prior to the day before surgery. The mean amount of time reported spent in preoperative activities not included in work captured in CPT or hospital billing codes was 153 minutes (Table 1). The median time spent in preoperative activities was 110 minutes (range: 12–735 minutes). The largest proportion of preoperative time was spent in activities such as screening and risk assessment of comorbidities (mean: 20 minutes, median: 15 minutes, range: 0–180) and patient education (mean: 34 minutes, median: 20 minutes, range: 0–240). Additional time spent in the preoperative setting by the surgeon and qualified health care provider is reported in Table 1.

Survey respondents were asked to quantify the amount of time spent by the clinical office staff (eg, RN, licensed practical nurse (LPN), MA, and scheduler) on planning, preparation, optimization, and care coordination activities prior to the day before surgery. The mean amount of time reported spent in preoperative activities not included in work captured in CPT or hospital billing codes was 177 minutes, with a median time of 125 minutes (range: 20–395 minutes). The largest proportion of preoperative time was spent in activities such as a preoperative education class (mean: 32 minutes, median: 10 minutes, range: 0–60 minutes) and obtaining prior authorization (mean: 28 minutes, median: 30 minutes, range: 0–60 minutes). Additional time spent in the preoperative setting by the clinical staff is reported in Table 2.

Changes in Work Burden

Survey respondents were asked to compare changes in preoperative work burden in TJA patients since 2013. Ninety-four percent (511/541) of survey respondents reported an increase in work related to preoperative optimization programs for primary TJA. The vast majority of surgeons (87%, 467/539) reported an increase in the amount of preoperative work to safely execute shorter length of stays for primary total hip arthroplasty, compared to work for a traditional 3-night hospitalization (Fig. 1). Sixty-four percent (346/539) of surgeons reported a 20% or greater increase in the work burden, whereas only 11% (59/539) reported no change in work burden, and 2.4% (13/539) reported a decrease in work burden. Similar results were seen for preoperative work burden for TKA, with 86% (465/540) reporting an increased in work burden, and 66% (355/540) reporting a 20% or greater increase in work burden (Fig. 2).

Table 1
Preoperative Time Spent by Surgeon and Qualified Health Care Professional^a.

Preoperative Activity	N	Mean	Median
Screening and risk assessment of comorbidities	260	20 (22)	15
Shared decision-making, goal setting	260	18 (17)	15
Patient education	260	34 (37)	20
Medical interventions, referrals, and consults	255	22 (37)	15
Follow-up visits, reassessment	256	29 (33)	20
Discharge planning	254	19 (16)	15
Enter data into prospective longitudinal outcome databases or registries (eg, NSQIP, AJRR)	220	11 (17)	10
Total	261	153	110

^a Physician assistant or nurse practitioner; time (minutes); mean (SD).

Table 2
Preoperative Time Spent by Clinical Staff^a.

Preoperative Activity	N	Mean	Median
Select date with patient and family; schedule surgery in OR scheduling system	256	21 (16)	15
Obtain prior authorization	248	28 (20)	30
Schedule and/or confirm appointments for evaluation by appropriate consultants (eg, PCP, cardiology, neurology, dentist, vascular surgery, endocrinology, etc.)	254	21 (18)	15
Schedule preoperative assessment with anesthesia	243	9 (12)	5
Schedule preoperative appointment with physical therapy	241	7 (10)	5
Schedule preoperative appointment with case manager and/or social worker	234	5 (8)	5
Schedule preoperative education class(es)	248	8 (8)	5
Coordinate and schedule final clearance assessment	239	13 (13)	10
Staff 1-2 h education class attended by multiple patients	224	32 (41)	10
Phone calls, e-mails, or other communications with patient, family, and other providers to coordinate preoperative visits and optimization	252	19 (18)	15
Phone call to patient or family to review preparation and instructions (eg, NPO, medications, antibiotic shower)	245	13 (12)	10
Total	256	177	125

^a Registered nurse, licensed practical nurse, medical assistant, scheduler; time (minutes); mean (SD).

Discussion

Advances in total hip and knee arthroplasty perioperative protocols in the last decade have led to dramatic decreases in hospital length of stay, patient complications, readmissions, and costs on the health care system. Implementation of these protocols has required additional preoperative design and management, such as optimization, education, and coordination, typically outside of the traditional scope of preoperative TJA care. In this study, we attempted to determine the preoperative work burden associated with these improved care pathways for TJA. We report a median time of 110 minutes for the surgeon, PA, and/or NP, for preoperative activities not included in CPT or hospital billing codes, and a median time of 125 minutes for other clinical staff (RN, LPN, MA, and scheduler). Most surgeons reported an increased preoperative work burden since 2013, with most stating a 20% or greater increase in time.

A number of studies have demonstrated that TJA in the United States is moving toward reduced length of stay and reduced utilization of post-acute care facilities [2,10]. Studies have also shown that these changes are associated with decreased complications and improved outcomes [3,10,14,15]. There have been a number of

important protocol changes that have allowed for these developments. Preoperative optimization protocols have allowed us to identify patients at higher risk for complications, longer length of stay, and discharge to skilled nursing facilities and implement protocols to address these risk factors. Bernstein et al. showed that implementation of optimization protocols led to decreases in length of stay without affecting 90-day complications, which led to significantly lower cost utilization [8]. In a similar study, Kim et al. demonstrated lower 30-day and 90-day readmission rates using a standardized preoperative optimization tool [9].

Preoperative education has also been a critical factor in value-based care models and rapid recovery protocols. Yoon et al. showed that implementation of a one-on-one preoperative education program led to significant decreases in length of stay [6]. Jones et al., using a patient education program consisting of a multidisciplinary team instructing patients on the care pathway, details of surgery, and expected discharge goals, also demonstrated its ability as a safe and effective method of reducing length of stay for total knee arthroplasty patients [7].

This study demonstrates that these changes required increased work and resources by the surgeon and the associated clinical staff beyond what is currently valued in the CMS current preservice

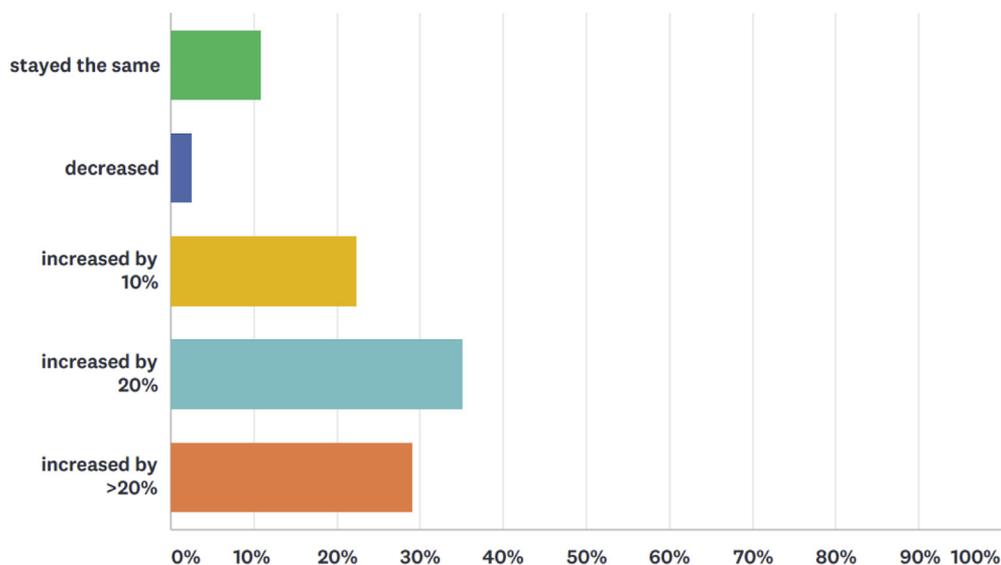


Fig. 1. Change in the amount of work required to safely execute short lengths of stay for primary total hip arthroplasty patients.

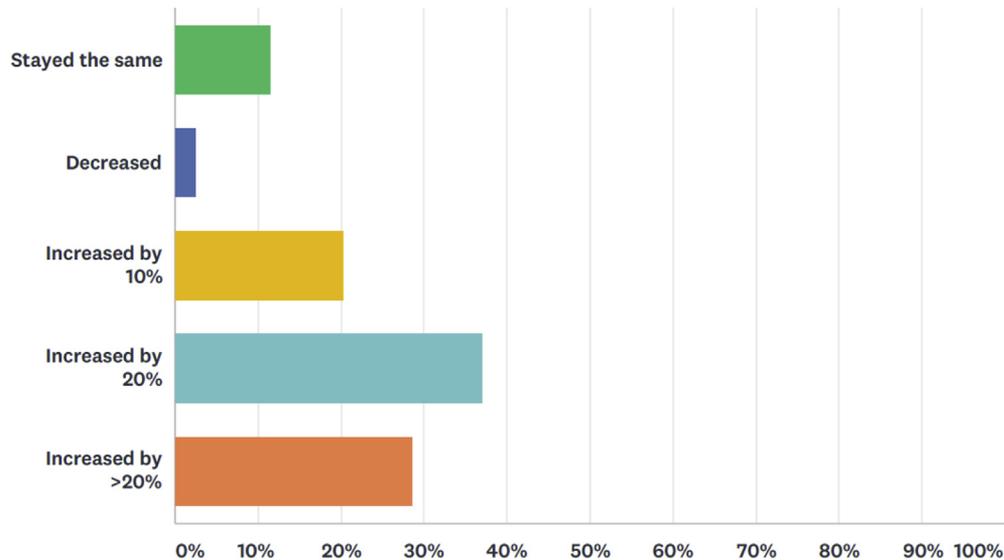


Fig. 2. Change in the amount of work required to safely execute short lengths of stay for primary TKA patients.

package time of 40 minutes. In a study by Shah et al, they show the effect of rapid discharge protocols on the postoperative work burden [16]. They reported a significant burden of work shifted from the hospital to the surgeon and his team. Our study demonstrates that similar changes are happening in the preoperative setting.

There are inherent limitations to a survey study. Survey respondents may overestimate or underestimate their responses, particularly in regard to time spent. It can be difficult for respondents to accurately quantify amount of time spent per patient for themselves and their providers. However, we believe that it is clear from that survey response that there has been an increase work burden as a result of the perioperative protocol changes. Further studies are needed to determine more precisely the amount of additional time required for these rapid discharge protocols to run effectively. Another limitation of the study was that respondents were allowed to skip questions, allowing for incomplete questionnaires. As noted in the study by Kongsved et al., although not ideal, this is a common occurrence in internet questionnaires, and the data can still be reported [17].

As quantified by surgeon respondents in this survey study, there has been an increasing work burden associated with the changes in perioperative rapid recovery protocols in total joint replacement because of accelerated discharge and the move toward value-based payments. These changes have led to significant preoperative and postoperative time burden increases on both clinical providers (surgeons, NPs, and PAs) and clinical staff (RN, LPN, MA, and schedulers), which is not compensated in the traditional payment models. Overall, episode-based, rapid recovery, and accelerated discharge protocols have led to improved outcomes, decreased complications, reduced readmissions, and significantly reduced cost, which seems to come at the expense of increased uncompensated surgeon and surgeon team time commitments. For these changes to be sustainable, and to continue to promote pathway improvements, policy makers and compensation models should account for this increased work burden.

Value-based payment models and perioperative rapid recovery protocols in TJA have led to significant time burden increases on clinical providers and staff.

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Quantifying Surgeon Work in Total Hip and Knee Arthroplasty: Where Do We Stand Today?

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ABSTRACT

Background: Physician work is a critical component in determining reimbursement for total joint arthroplasty (TJA). The purpose of this study is to quantify the time spent during the different phases of TJA care relative to the benchmarks used by the Centers for Medicare and Medicaid Services.

Methods: We retrospectively reviewed all patients captured in our institutional joint database between January 1, 2014, and December 31, 2018. Four phases of care were assessed: (1) preoperative period following the decision to proceed with TJA and leading to the day before surgery, (2) immediate 24 hours preceding surgery (preservice time), (3) operative time from skin incision to dressing application (intraservice time), and (4) postoperative work including day of surgery and the following 90 days.

Results: A total of 666 procedures were analyzed (379 total hip arthroplasties and 287 total knee arthroplasties). The mean preoperative care coordination, preservice, intraservice, immediate post-service, and 91-day global period times were 21.9 ± 10 , 84.1 , 114 ± 24 , 35 , and 150 ± 37 minutes, respectively. Except for a slightly higher preoperative time associated with Medicare coverage ($P = .031$), there were no differences in the other phases of care by payer type. There were no temporal differences between 2014 and 2017. However, in 2018, there were significant increases in preoperative and intraservice times (6 and 20 minutes, respectively, $P < .001$) which were accompanied with a significant decrease in postoperative service time (34 minutes, $P < .001$).

Conclusion: Even when performing TJA under the most optimal conditions, the overall time has remained stable over the past 5 years and consistent with current benchmarks.

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Services provided by healthcare professionals need to be identified and reported in a way that is universally understood. To accomplish this goal and ensure consistent and accurate reporting of health claims, the American Medical Association (AMA) developed the Current Procedural Terminology (CPT) coding system in 1966 [1,2]. Since then, the CPT codes, which are identified by 5-digit numbers, have become universally accepted as a standardized

coding system for healthcare services and procedures [1,2]. Once a CPT code is approved by the AMA's CPT Editorial Panel, the AMA's Relative Value Scale Update Committee (RUC) then determines the appropriate relative value unit for each CPT code [1,2] based on 3 components: physician work, practice expense, and professional liability insurance [3]. CPT evaluation is conducted by the Centers for Medicare and Medicaid Services (CMS) every 5 years [4].

Physician work is defined time and intensity associated with providing a particular service and is a major component of the total relative value unit [3]. Physician work is further broken down into that spent before, during, and after the service is completed. Originally, the method for establishing physician work was based on surveys administered directly to representative physician samples [4,5] although currently the RUC relies on specialty societies to conduct surveys of their membership [4].

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On November 1, 2018, CMS identified CPT codes 27130 (total hip arthroplasty [THA]) and 27447 (total knee arthroplasty [TKA]) as potentially misvalued, thereby prompting reevaluation of these codes [6]. This request was triggered by Anthem, the largest health insurer in the United States, based on a 2016 pilot study that found physician intraservice time to be inflated (87 and 83 minutes for THA and TKA, respectively, compared to the 100-minute benchmark used by CMS) [7]. In response to this inquiry, arthroplasty researchers developed data pertaining to the perioperative work associated with THA and TKA. To date, there have been at least 3 published reports on this topic. Two independent groups assessed operative time [8,9] and 1 quantified the immediate preoperative and postoperative work [10]. Collectively, those reports indicated that there have been no major deviations from current benchmarks with actual physician work either equaling or exceeding those benchmarks.

The purpose of this study is to quantify surgeon work associated with providing primary, unilateral THA and TKA. Four components were assessed: (1) preoperative period following the decision to proceed with surgery and leading to the day before surgery, (2) immediate 24 hours preceding surgery (preservice time), (3) operative time from skin incision to dressing application (intraservice time), and (4) postoperative work including day of surgery and the following 90 days. It is our hope that this study along with data from other institutions could help inform decision-making by stakeholders on an issue that holds profound impact on total joint arthroplasty (TJA) care.

Materials and Methods

Institutional review board approval was obtained. Our institutional joint database was queried for all patients who underwent elective, primary, unilateral THA (CPT code 27130) and TKA (CPT code 27447) from January 1, 2014, through December 31, 2018. Only procedures performed by fellowship-trained surgeons were included in the database. There were 4 surgeons during the study period with everyone performing at least 50 THAs/TKAs per year. Complex primaries (conversion from previous hip surgery, removal of hardware, etc.), those requiring co-surgeon assistance, cases with intraoperative complications requiring additional procedures or nonroutine care, and outliers (greater than 2 standard deviations from the mean operative time) were excluded. All surgeries were performed at a single public academic institution with assistance of orthopedic surgery residents or advanced practice practitioners. A variety of surgical approaches were used for THA. The choice of implants used was also variable depending on each surgeon's preference but were individually consistent. Patient enrollment in the joint database is voluntary and requires an informed consent. The average capture rate of our database (percentage of enrolled to eligible patients) is 59%.

Demographic variables collected were age, sex, body mass index, American Society of Anesthesiologists physical status classification, and payer type (commercial, Medicare, Medicaid, or other). The primary outcome was time spent in delivering THA and TKA. Four phases of care were assessed: (1) preoperative period following the decision to proceed with surgery and leading to the day before surgery, (2) immediate 24 hours preceding surgery (preservice time), (3) operative time from skin incision to dressing application (intraservice time), and (4) postoperative work including day of surgery and the following 90 days. Items included in the preoperative period were patient visits (each visit is booked into a 15-minute appointment at our institution), patient phone calls (estimated 3 minutes per phone call), and medication/dural medical equipment orders (estimated 2 minutes per encounter). Items included in the preservice time were evaluation time, positioning

time, and scrub, dress, and wait time. Preservice evaluation time consisted of calling the patient the night before surgery (5 minutes), placing preoperative orders (5 minutes), patient counseling/consent review/site marking/communication with staff (15 minutes), electronic medical record documentation (5 minutes), templating (10 minutes), prepositioning time (while anesthesia/nursing care is completed), and positioning, scrub, dress, and wait time. The latter 2 items were allocated an aggregate of 20.8 and 23.3 minutes, respectively, based on averaging our prospectively collected data for those tasks in 519 consecutive patients. Postservice work was divided into that performed immediately following surgery (immediate postservice work) and subsequent care up to 90 days following the day of surgery. Immediate postservice work included transfer to hospital bed and recovery unit (5 minutes), entering postoperative orders and brief operative note (10 minutes), communication with family (5 minutes), operative note dictation (10 minutes), and patient evaluation in the recovery unit/review of radiographs (5 minutes). Day of surgery and global 90-day period items included inpatient visits with corresponding documentation (15 minutes per visit), discharge planning consisting of discharge summary/instructions/face-to-face attestation (20 minutes), calling the patient after discharge (5 minutes), clinic visits (15 minutes per visit), responding to patient phone calls (3 minutes per call), medication(s)/physical therapy orders (2 minutes per encounter), and completing return to work forms (3 minutes per form).

Continuous variables were described using mean and standard deviation. Categorical variables were described using frequency and proportion. Multiple 1-way analysis of variance tests were used to examine the differences in time between payer types over the study period. Pairwise comparisons using Bonferroni's method were used to adjust for the multiple comparisons. An alpha level of 0.05 was set for all comparisons. All statistical analyses were performed using Stata 15.1 (StataCorp. 2017. Stata Statistical Software: Release 15. College Station, TX: StataCorp LP).

Results

A total of 666 procedures were analyzed (379 THAs and 287 TKAs). The mean age was 61 ± 12 years, body mass index 30 ± 6 , and American Society of Anesthesiologists score 2.3 ± 1 . There were 318 (48%) females and 348 (52%) males. Payer mix consisted of 211 (32%) commercial insurance, 86 (13%) Medicare, 295 (44%) Medicaid, and 74 (11%) other coverage. Table 1 summarizes the baseline characteristics of the study group.

For the combined THA/TKA analysis, the mean preservice and immediate postservice times were 84 and 35 minutes, respectively. The median intraservice time was 111 minutes (range, 65–199). The

Table 1
Baseline Characteristics of the Study Group.

Variable	
Age (y)	61 ± 12
American Society of Anesthesiologists physical classification system	2.3 ± 1
Body mass index	30 ± 6
Sex	
Female	318 (48%)
Male	348 (52%)
Procedure	
Total hip arthroplasty	379 (57%)
Total knee arthroplasty	287 (43%)
Payer type	
Commercial	211 (32%)
Medicare	86 (13%)
Medicaid	295 (44%)
Other	74 (11%)

Table 2

Comparison of Work Time Between the 2019 CMS PFS and Our Data.

Phase of Care	2019 CMS PFS	Present Study	Difference
Preservice time (min)	75	84	9 (+12%)
Intraservice time (median, min)	100	111	11 (+11%)
Postservice time			
Immediate (min)	20	35	10 (+75%)
Hospitalization and global 90-day period (min)	Not defined	150 ± 37	—
Inpatient visits	3	5 ± 2	2 (+66.7%)
Outpatient visits	3	2.5 ± 1	0.5 (–16.7%)
Preoperative care coordination (following decision to proceed with surgery and excluding preservice time, mean, min)	N/A	22 ± 10	—
Total time for THA and TKA (mean, min)	407	405 ± 41	(–0.5%)

CMS, Centers for Medicare and Medicaid Services; PFS, physician fee schedule; THA, total hip arthroplasty; TKA, total knee arthroplasty; N/A, not applicable.

mean preoperative care coordination time (following decision to proceed with surgery and excluding preservice time) was 21.9 ± 10 minutes. The mean service time for the 91-day global period was 149.6 ± 37 minutes. Table 2 summarizes the service times for the different phases of care.

There were no differences in service time for all phases of care by payer type ($P = .068, .888, .236, \text{ and } .216$ for preoperative optimization, intraservice, 91-day global period, and total episode of care, respectively). Figure 1 summarizes the surgeon work by payer type.

There were no temporal differences in service time between 2014 and 2017. However, in 2018, we observed an average increase of 6 minutes in preoperative time ($P < .001$) and 20 minutes in intraservice time ($P < .001$). This was accompanied by an average decrease of 34 minutes in the postoperative service ($P < .001$). Figure 2 summarizes the surgeon work time by payer type.

Analyzing data by procedure type showed that TKA required higher total service time than THA (420 ± 40 and 393 ± 38 minutes, respectively, $P < .001$). This was in part driven by higher mean postservice time for TKA (162 ± 36 and 140 ± 35 minutes, respectively, $P < .001$). Table 3 summarizes the surgeon work by procedure type.

Discussion

This study provided a comprehensive assessment of surgeon work for primary TJA. It comes at a critical time as revaluation of THA and TKA CPT codes is underway. While there were variations within the different phases of care, we found that the total surgeon

work has remained unchanged from previous benchmarks. Specifically, there was increased preservice, intraservice, and immediate postservice work (+12%, +11%, and +75%, respectively). This was accompanied with decreased postservice time, particularly following hospital discharge. TKA required higher total service time than THA (420 vs 393 minutes), which was in part due to higher frequency of follow-up visits (3 vs 2 visits).

The decision of CMS to label THA and TKA as potentially misvalued procedures stems in part from a 2016 pilot report that found lower actual operative times (87 and 83 minutes for THA and TKA, respectively) compared to the 100-minute benchmark [7]. As a result, most studies to date have focused on assessing operative time. Chughtai et al [8] retrospectively reviewed 12,567 consecutive TJAs performed between 2015 and 2019 at a multihospital healthcare system. Only cases carried out by surgeons performing at least 100 TJAs per year during the study period were included. The authors found that the mean intraservice time for primary THA and TKA was 96.4 and 103.6 minutes, respectively. Similarly, in a retrospective review of 1313 primary THAs and 1300 primary TKAs performed by 4 fellowship-trained surgeons at 3 hospitals within a single academic institution between 2015 and 2019, Shah et al [9] found that the mean intraservice time was 102 and 116 minutes for THA and TKA, respectively. Elective and fracture cases were included in that study. Wasterlain et al [10] went beyond just assessing intraservice time to analyze preservice and immediate postservice times. Data were prospectively collected in 121 patients and retrospectively in 1000 patients who underwent primary TJA by 7 arthroplasty surgeons at a single academic institution. The authors reported that the mean total preservice and immediate

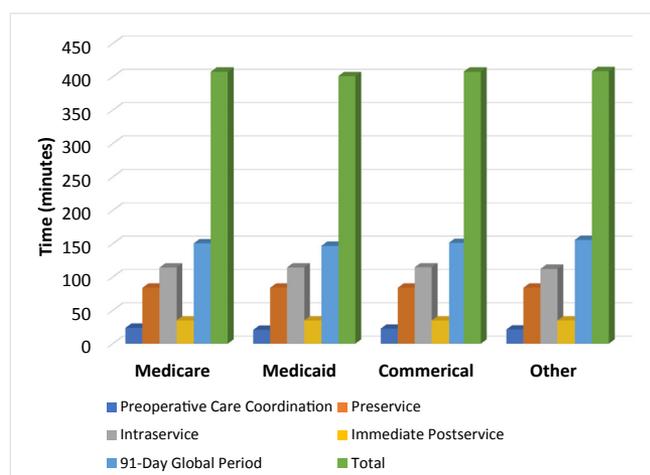


Fig. 1. Surgeon work time by payer type.

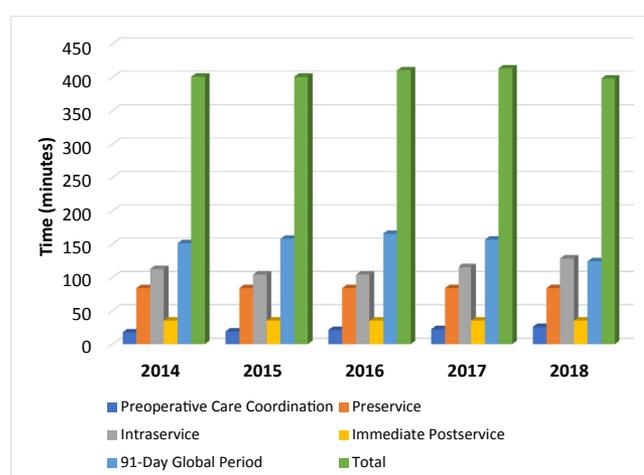


Fig. 2. Surgeon work time by year.

Table 3
Surgeon Work by Procedure Type.

Phase of Care	Total Hip Arthroplasty	Total Knee Arthroplasty
Preservice time (mean, min)	84	84
Intraservice time (median, min)	109	113
Postservicetime		
Immediate (mean, min)	35	35
Hospitalization and global 90-day period (mean, min)	140 ± 35	162 ± 36
Inpatient visits (mean)	4.6 ± 2.1	5.2 ± 1.8
Outpatient visits (mean)	2.4 ± 1	2.7 ± 1
Preoperative care coordination (following decision to proceed with surgery and excluding preservice time, mean, min)	21 ± 9	23 ± 11
Total time for THA and TKA (mean, min)	393 ± 38	420 ± 40

THA, total hip arthroplasty; TKA, total knee arthroplasty.

postservicetime were 83 and 30 minutes, respectively (compared to 75 and 20 minutes used as benchmarks).

Providing contemporary and accurate quantification of physician work in TJA is critical to help guide policymakers. This requires data from centers across the country reflecting diverse geographic regions, TJA volume, case complexity, payer types, and practice settings among other variables. Such data will likely show heterogeneity in physician work reflecting the different variations. There will also likely be heterogeneity within individual institutions reflecting surgeon experience, surgical techniques, and available resources. As such, quantifying surgeon work is a complex task, and altogether it lends to the concern among arthroplasty surgeons that CMS' decision to label THA and TKA as potentially misvalued procedures a premature step. This concern is further compounded by the realization that the devaluation inquiry was triggered by Anthem, an entity that stands to immensely benefit from devaluation of TJA procedural codes. There is also concern of unintended adverse consequences on patient care with speed trumping quality.

The past 5 years have witnessed tremendous improvements in TJA care that made rapid recovery and outpatient surgery feasible. However, this has led to proliferation of additional preoperative tasks that are usually not accounted for in the calculation of surgeon work [11,12]. A central component among those tasks is optimization of modifiable risk factors [11]. In one study, 74% of patients undergoing primary, elective TJA had at least 1 modifiable risk factor [13]. Preoperative optimization could be a time-consuming process, often requiring patient counseling, coordination of care with other healthcare providers, and delaying surgery. It may also require extended inpatient observation to minimize the risk of medical complications and readmissions (eg, patients with cardiovascular disease and diabetes). As our study has shown, while the total surgeon work has remained stable over the past 5 years, there was a shift toward increased work in earlier phases of care.

Our study should be interpreted in the context of some limitations. First, it is a retrospective review from a single tertiary public academic center. As such, the results may not be generalizable to other institutions. Second, we used conservative estimates for certain tasks and could not quantify a number of other tasks (eg, completing medical leave paperwork, coordination of care with other providers, collection of quality metrics, administrative burden for compliance with outpatient surgery, etc.). We also

focused on cases with most optimal conditions (eg, only cases performed by fellowship-trained surgeons and those within 2 standard deviations of the mean operative time were included). The RUC does not provide a reward for performing TJA more efficiently just as it does not provide a disincentive for decreased efficiency. Therefore, this study likely underestimates actual physician work. Third, the study represents cases of 4 surgeons at different career stages: 1 midcareer and 3 early career surgeons. However, everyone was fellowship-trained and performed at least 50 TJAs per year. Fourth, 44% of patients in our study had Medicaid coverage and only 13% were Medicare beneficiaries, which may limit generalizability to standard US-based practices.

In conclusion, our study confirms previous reports that physician work associated with TJA has remained stable and is consistent with current benchmarks. Multicenter studies representing diverse range of geographic, demographic, and institutional variations are needed to accurately ascertain the work involved in providing primary TJA. Until such data become available, we support current valuation of THA and TKA.

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ARTICLES SUPPORTING ADDITIONAL PREOPERATIVE PATIENT OPTIMIZATION WORK

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