Declining Rates of Public Orthopaedic Surgery Reimbursements and Utilization, 2016-2024

Branden Lee[1], Adam S Levin
[1]Orthopaedic Surgery, Johns Hopkins University School of Medicine

INTRODUCTION:

As one of the biggest medical insurers in the United States, Medicare covers over 65 million beneficiaries. Thus, the policies and payments it puts forward can have large impacts on patient outcomes and health systems. The Centers for Medicare & Medicaid Services (CMS) has growingly relied on value-based principles via their original value-based programs, in which outcomes are tied to incentives distribution and reimbursement rates. By implementing these outcomes-based initiatives and reimbursement structures, the CMS is affirming the direct relationship between value of care and compensation for medical treatments.

However, over the past few decades, it has been observed that many orthopaedic surgical procedures have been reimbursed at decreasing rates. This trend has been concurrent to a similar trend of decreased payments to surgeons for inpatient orthopaedic procedures, despite rising hospital payments. Existing research extensively demonstrates that curbed reimbursement rates adversely impact outcomes and accessibility to crucial orthopaedic surgeries and services.

While surgical reimbursements have fallen without revisitation of the payment rate formula, evaluation and management (E/M) payment policies were adjusted in 2021 by the CMS. This adjustment was implemented with the intention of increasing payments for cognitive specialists and primary care physicians, which was modestly achieved. However, these readjustments were applied primarily to outpatient/office services and excluded perioperative E/M services encompassed within surgical global services. Thus, this re-evaluation of conversion rates come at the associated reduction of reimbursements for surgeries and other E/M services bundled within the global surgery package. Without re-evaluation of surgical value measurements or reimbursement conversion rates, this will ultimately lead to reductions in payments for orthopaedic surgeries, which is further compounded by rising inflation rates and the multiple procedure payment reductions (MPPR).

The first aim of this study was to compare reimbursement payment trends for orthopaedic surgeries compared to E/M services from Medicare. The second was to evaluate the impact, if any, this price trend had on utilization of these services by Medicare beneficiaries.

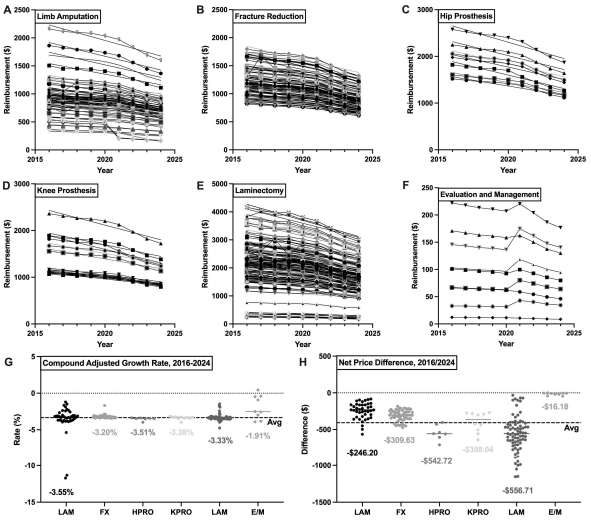
METHODS:

Using the CMS Physician Fee Schedule Look-Up Tool, we obtained reimbursement data from 2016 to 2024 for operations covered under the following NHSN procedure code categories: limb amputation (AMP), open reduction of fracture (FX), hip prothesis (HPRO), knee prosthesis (KPRO), and laminectomy (LAM). Additionally, we obtained Medicare reimbursement data for outpatient/office evaluation and management (E/M) services. These payments were corrected for inflation by using the consumer price index (CPI) inflation calculator, set for January of each adjusted year. Compound Annual Growth Rate (CAGR) were calculated to assess the mean growth rate for each procedure. Linear regression was done to assess trends. Additionally, using data from the CMS, we measured national utilization of operations under the evaluated NHSN procedure code categories provided to Medicare and Part B beneficiaries from 2017 to 2020. Simple linear regressions were executed to measure the annual trend in utilization and Wilcoxon matched-pairs signed rank test were used to analyze the significance of price changes from 2016 to 2024 and the utilization changes from 2017 to 2020.

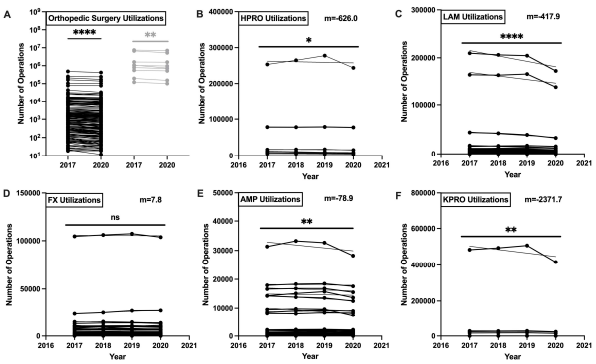
RESULTS:

Mean reimbursements for all evaluated orthopaedic surgeries dropped significantly (-$408, $p<0.0001$) from $1558 (SEM $56.69) to $1150 (+/- $41.72 SEM) from 2016 to 2024.This trend of decreased reimbursement was seen across every single procedure category: AMP (-$246.20), FX (-$309.63), KPRO (-$398.04). However, hip prosthesis (-$542.72) and laminectomies (-$556.71) were most substantially affected. Despite these differences in net price reductions, each procedure category demonstrated similarly negative CAGR's across this nine-year span (-3.55% AMP, -3.20% FX, -3.51% HPRO, -3.38% KPRO, -3.33% LAM). These findings are contrasted to modest reductions in outpatient/office E/M reimbursement rates (-$16.18, $p<0.01$), which corresponds to a -1.91% CAGR. Similarly, the federal utilization of all orthopaedic surgeries fell from 2017 to 2021 ($p<0.0001$) no significant changes were seen for evaluation and management services ($p=0.9102$). Overall, orthopaedic surgery reimbursement rates as well as their utilization have been consistently falling, which is contrasted to an attenuated reduction in reimbursement and no statistically significant changes in utilization for E/M services.

DISCUSSION AND CONCLUSION: These findings demonstrate a clear trend of declining federal reimbursements for Orthopaedic Surgeries that accompany a statistically significant reduction in utilizations of these operations. These results likely under-report an already significant difference in falling reimbursements between orthopaedic surgeries and E/M services, due to MPPR initiatives. When accounting for these differences, non-adjusted E/M services excluded from the global surgery bundle (critical care services), and the lack of adjustments for bundled E/M services in the global surgery bundles, a concerning trend is developing in orthopaedic reimbursements.


A
Limb Amputation
B
Fracture Reduction
C
Hip Prosthesis
D
Knee Prosthesis
E
Laminectomy
F
Evaluation and Management
Reimbursement ($)
Year

G
Compound Adjusted Growth Rate, 2016-2024
Rate (%)
-3.55%
-3.20%
-3.51%
-3.38%
-3.33%
-1.91%
Avg
LAM
FX
HPRO
KPRO
LAM
E/M
H
Net Price Difference, 2016/2024
Difference ($)
-$246.20
-$309.63
-$542.72
-$398.04
-$556.71
-$16.18
Avg


A
Orthopedic Surgery Utilizations
****
**
B
HPRO Utilizations
m=-626.0
*
C
LAM Utilizations
m=-417.9
****
Number of Operations
Year

D
FX Utilizations
m=7.8
ns
E
AMP Utilizations
m=-78.9
**
F
KPRO Utilizations
m=-2371.7
**
Number of Operations
Year