The Successful Shift of Joint Replacement Surgeries from Hospital Inpatient to Outpatient Settings is Saving the Health Care System $6 Billion This Year and Will Save $70 Billion over the Next Decade

Shifting more care to higher-value sites of service represents an opportunity to drive substantial savings for the health care system, including for government programs, while delivering **clinically effective medical care that is better for consumers**. The recent shift of most joint replacement surgeries to outpatient settings is a success story that serves as a model for current site-of-service opportunities.

About 1.5 million total hip and knee replacement surgeries are expected to be performed in the U.S. in 2025,[1] and this number is expected to grow over the next decade.[2] Advancements in surgical techniques, implants, and post-operative pain management have enabled joint replacement surgeries to be performed in outpatient settings.[3] It is well established that **performing joint replacement surgeries in outpatient settings is safe and does not compromise quality, outcomes, or patient satisfaction scores**.[4,5,6,7] In addition, compared to a hospital inpatient setting, **joint replacements cost less when done in a hospital outpatient department (HOPD),**[8] **and even less when done in an ambulatory surgery center (ASC)**.[9,10]

Until recently, most joint replacements for commercially insured individuals and Medicare enrollees were performed on an inpatient basis.[11] However, a combination of policy changes and market forces created a favorable environment for shifting most joint replacements to outpatient settings, including ASCs.[12]

Moving joint replacements from inpatient to outpatient settings is expected to result in:

900,000 fewer unnecessary hospital admissions in 2025, including:

- 650,000 for Medicare enrollees
- 250,000 for commercially insured individuals

$6 billion in 2025 savings, including:

- $2.5 billion in Medicare savings
- $3.5 billion in savings for commercially insured individuals and employers

These savings will recur annually and could grow over time with ongoing increases in the number of joint replacements, the shares performed in ASCs and HOPDs, and the cost differences between inpatient and outpatient settings.

Following clinical and technological advancements, policy changes and market forces have driven the shift of joint replacement surgeries to outpatient settings. The Centers for Medicare & Medicaid Services (CMS) regularly evaluates which care delivery settings are eligible to perform specific Medicare-covered services. CMS removed knee replacement surgeries from the Medicare Inpatient Only (IPO) list for 2018,[13] allowing the procedure to be performed in HOPDs, and subsequently added knee replacements to the ASC Covered Procedures List (CPL) for 2020.[14] Similarly, CMS removed hip replacement surgeries from the IPO list for 2020,[15] and subsequently added them to the ASC CPL for 2021.[16] Starting in 2020, the COVID pandemic accelerated the shift away from hospital inpatient care, including for joint replacements, as many patients became more averse to overnight stays,[17,18,19] and providers and health plans supported shifting some services and surgeries to safe and effective outpatient settings.[20,21]

Moving Forward

The shifts in joint replacement surgeries from hospital settings to HOPDs and ASCs that already have occurred are contributing to lower health care costs each year. **This savings will total an estimated $70 billion over the next decade, including:**

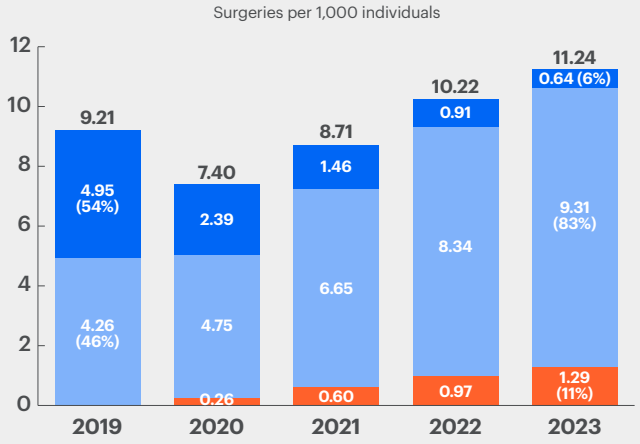
- **$30 billion in Medicare savings**
- **$40 billion in savings for commercially insured individuals and employers**

Policymakers can facilitate additional reductions of unnecessary hospital admissions and substantial new savings by supporting provider and health plan efforts to help patients seek safe and effective care in appropriate outpatient settings for more health care services over time.

Most total joint replacement surgeries moved to outpatient settings between 2019 and 2023 for Medicare enrollees and commercially insured individuals.

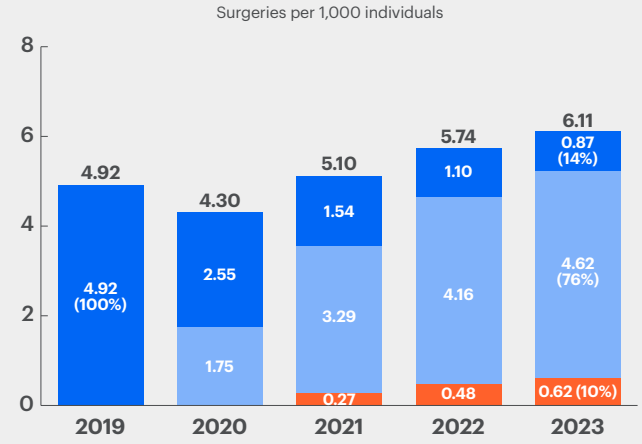
Medicare Enrollees

Knee Replacement Surgeries, 2019 to 2023



- From 54% to 6% of volume in hospital inpatient settings
- From 46% to 94% of volume in outpatient settings, including:
  - From 46% to 83% in HOPDs
  - From 0% to 11% in ASCs

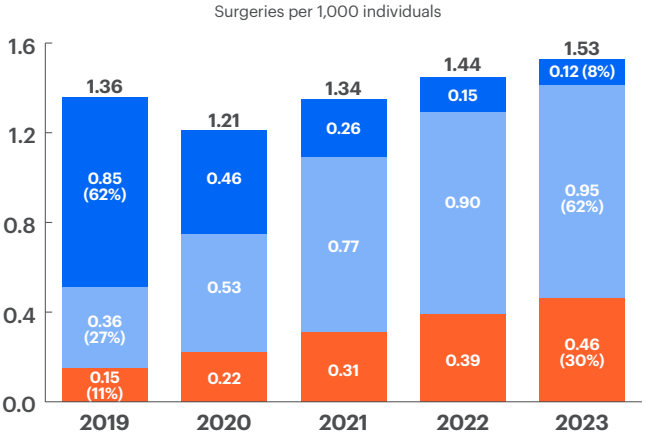
Hip Replacement Surgeries, 2019 to 2023



- From 100% to 14% of volume in hospital inpatient settings
- From 0% to 86% of volume in outpatient settings, including:
  - From 0% to 76% in HOPDs
  - From 0% to 10% in ASCs

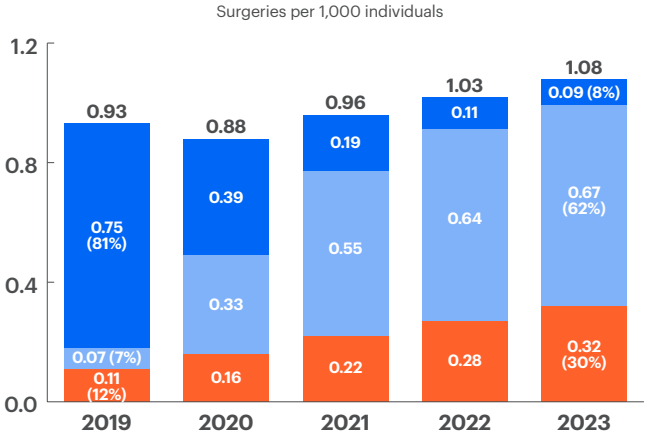
Commercially Insured Individuals

Knee Replacement Surgeries, 2019 to 2023



- From 62% to 8% of volume in hospital inpatient settings
- From 38% to 92% of volume in outpatient settings, including:
  - From 27% to 62% in HOPDs
  - From 11% to 30% in ASCs

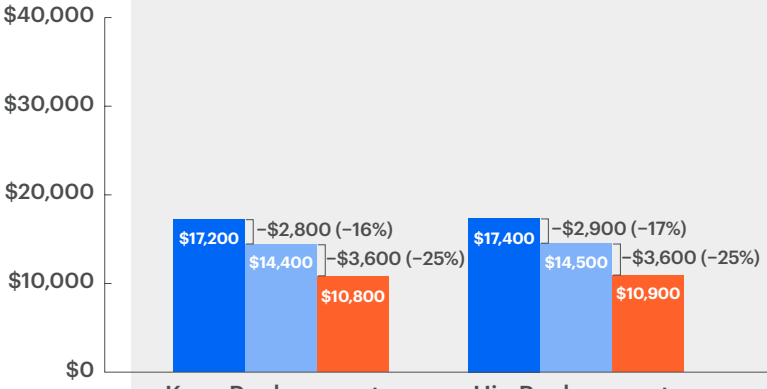
Hip Replacement Surgeries, 2019 to 2023



- From 81% to 8% of volume in hospital inpatient settings
- From 19% to 92% of volume in outpatient settings, including:
  - From 7% to 62% in HOPDs
  - From 12% to 30% in ASCs

The average cost of total joint replacement surgeries is lower in an HOPD than in a hospital inpatient setting and even lower in an ASC.

Medicare Enrollees
Average Cost per Surgery, 2023



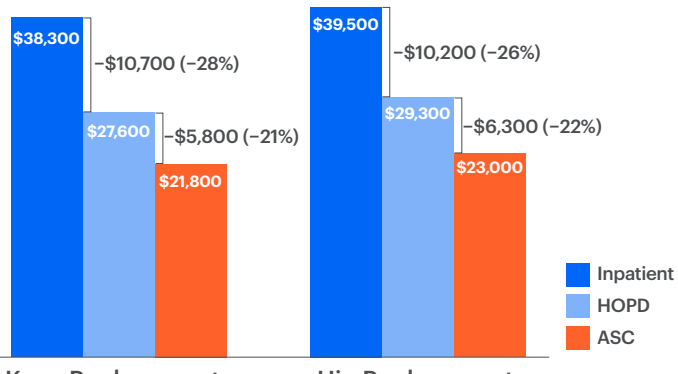
Knee Replacements

- $2,800 (16%) lower cost in HOPD vs. Inpatient
- $3,600 (25%) lower cost in ASCs vs. HOPD

Hip Replacements

- $2,900 (17%) lower cost in HOPD vs. Inpatient
- $3,600 (25%) lower cost in ASCs vs. HOPD

Commercially Insured Individuals
Average Cost per Surgery, 2023



Knee Replacements

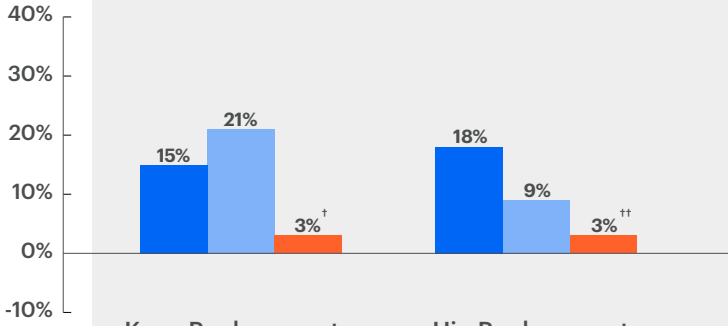
- $10,700 (28%) lower cost in HOPD vs. Inpatient
- $5,800 (21%) lower cost in ASCs vs. HOPD

Hip Replacements

- $10,200 (26%) lower cost in HOPD vs. Inpatient
- $6,300 (22%) lower cost in ASCs vs. HOPD

Under Medicare, the average cost of total joint replacement surgeries increased less in ASCs than in HOPDs and hospital inpatient settings between 2019 and 2023; for commercially insured individuals, the average cost increased in HOPDs and hospital inpatient settings and did not increase in ASCs.

Medicare Enrollees
Change in Cost per Surgery, 2019 to 2023



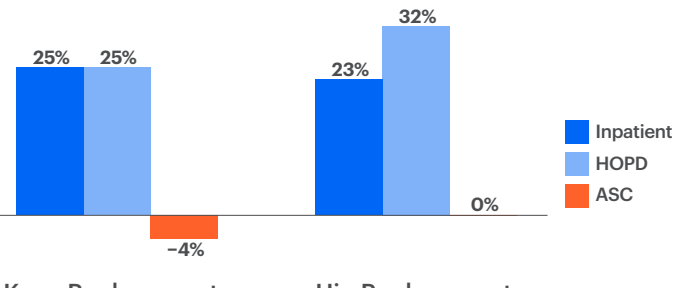
Knee Replacements

- 15% increase in inpatient
- 21% increase in HOPDs
- 3% increase in ASCs

Hip Replacements

- 18% increase in inpatient
- 9% increase in HOPDs
- 3% increase in ASCs

Commercially Insured Individuals
Change in Cost per Surgery, 2019 to 2023



Knee Replacements

- 25% increase in inpatient
- 25% increase in HOPDs
- 4% decrease in ASCs

Hip Replacements

- 23% increase in inpatient
- 32% increase in HOPDs
- No increase in ASCs

† 2020 is used as the baseline year for ASCs
†† 2020 is used as the baseline year for HOPDs and 2021 is used for ASCs

Methodology

The analysis focused on 2019 through 2023 UnitedHealthcare (UHC) Medicare and commercial claims for total knee and hip replacement surgeries. Total knee replacement surgeries were identified by the CPT code 27447, and total hip replacement surgeries were identified by the CPT code 27130. For simplicity, these procedures are referred to as knee and hip replacement surgeries throughout the brief. Costs reflect total allowed costs; this includes federal government and enrollee costs under Medicare, and employer and enrollee costs under commercial insurance.

From 2019 through 2023, knee and hip replacements with complications or comorbidities were a small subset of hospital inpatient surgeries, representing fewer than 3% of surgeries for Medicare and fewer than 1% of surgeries for the commercially insured. Compared to surgeries that did not involve complications or comorbidities, the average cost of surgeries with complications or comorbidities in 2023 was 52% higher for Medicare knee replacements, 48% higher for Medicare hip replacements, 49% higher for commercial knee replacements, and 20% higher for commercial hip replacements. Due to their low prevalence and substantially higher costs, these surgeries were included in the analysis of utilization and excluded from the analysis of average cost.

The reported increase in the average cost of certain surgeries under Medicare reflects a later baseline year in cases where Medicare did not yet allow surgeries to be performed in some settings. For Medicare knee replacement surgeries, 2020 is used as the baseline year for ASCs. For Medicare hip replacement surgeries, 2020 is used as the baseline year for HOPDs and 2021 is used for ASCs.

For commercially insured individuals, the change in cost per surgery for ASCs (shown on page 3) was adjusted by excluding surgeries that included costs attributed to non-participating providers that were greater than 10% of the total allowed cost for that surgery. The adjustment corrects for outliers that had a material and uneven impact at different points within the study period.

The systemwide volume of knee and hip replacement surgeries was estimated by using a combination of publicly available estimates and UHC data. The total 2023 volume for Medicare and the commercially insured was estimated by applying UHC's utilization rate by setting (hospital inpatient, HOPD, and ASC) to the total number of individuals with employment-based coverage (157 million, Congressional Budget Office (CBO)) and Medicare enrollees with Parts A and B coverage (60 million, CBO and KFF) in 2023.

The systemwide cost of surgeries was estimated by applying UHC's total allowed cost by surgery, setting, and line of business for 2023 to the estimated systemwide volume of surgeries for 2023. For subsequent years, the systemwide cost of surgeries was estimated by growing both the volume of surgeries and the unit cost of surgeries over time. For Medicare enrollees, volume was grown by 3% annually for hip replacements and 2% annually for knee replacements, consistent with the projected average annual growth rates from the literature (Shichman et al., 2023). For commercially insured individuals, volume growth was reduced to 2% annually for hip replacements and 1% annually for knee replacements – after applying UHC's commercial-to-Medicare ratios of average annual growth rates for hip replacements and knee replacements, respectively, from 2019 through 2023. The unit cost of surgeries for subsequent years was grown by 3% annually, consistent with the average annual growth of the medical care component of the Consumer Price Index over the past 10 years.

To estimate the 2025 systemwide savings that is directly attributable to a shift of volume from the hospital inpatient setting to HOPDs and ASCs, the 2025 cost of surgeries under the 2023 distribution across settings was compared to hypothetical 2025 costs under an estimated baseline scenario where the 2019 distribution of surgeries across settings was held constant as total volume changed. The systemwide savings estimate for the next ten years was calculated by summing the annual savings from 2025 to 2034.

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