

CMS' Substantial Clinical Benefit After TKA Is Too High: An Analysis Using the American Joint Replacement Registry

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INTRODUCTION: The Centers for Medicare and Medicaid Services has set the substantial clinical benefit (SCB) for the Knee Injury and Osteoarthritis Outcome Score for Joint Replacement (KOOS-JR) after primary total knee arthroplasty (TKA) at 20 points. We aimed 1) to compare the percentage of patients who achieved minimal clinically important difference (MCID) and SCB for KOOS-JR at one year following TKA and 2) to evaluate factors associated with benchmark achievement.

METHODS: We queried the American Joint Replacement Registry (AJRR) and identified 1,206,697 patients who underwent primary TKA from 2018 to 2023. We determined attainment on KOOS-JR at 12 months of 1) distribution-based MCID (7.5), 2) anchor-based MCID (14) and 3) substantial clinical benefit (20). Association of each factor with achievement of MCID and SBC was evaluated using a generalized linear model for binary outcomes that accounted for clustering within institutions. Unadjusted and adjusted odds ratios (OR) for the outcomes of interest with 95% confidence intervals (CI) were reported. Covariates included preoperative KOOS-JR score, sex, race/ethnicity, body mass index (BMI), Charlson Comorbidity Index (CCI), fixation type, use of technology, year of procedure, region, institution type, teaching status, and bed size.

RESULTS: Linked scores were recorded by 64,773 patients. Eighty-seven percent achieved the calculated distribution-based MCID. Seventy-seven percent achieved the anchor-based MCID. Sixty-six percent achieved the SCB. Patients with higher preoperative scores (OR 0.93, CI 0.92-0.93, $p<0.001$), males (OR 0.89, CI 0.85-0.94, $p<0.001$), increasing BMI (OR 0.93, CI 0.87-0.99, $p=0.25$), and increasing CCI (OR 0.89, CI 0.81-0.97, $p=0.012$) were less likely to achieve MCD/SCB. None of the other co-variables were found to be associated with the achievement of MCID/SBC, with the numbers available.

DISCUSSION AND CONCLUSION: CMS' relatively arbitrarily-defined substantial clinical benefit is too high for an operation that routinely yields >80% patient satisfaction.