Medicare Reimbursement Trends for Total Joint Arthroplasty: What Does the Future Hold?

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RESEARCH QUESTION

Is Medicare total joint arthroplasty at risk financial unsustainability due to falling reimbursement rates now and in the future?

BACKGROUND

Over the last 31 years, the Center for Medicare and Medicaid Services (CMS) has been steadily reducing the reimbursement of various medical and surgical procedures. As of 2024, CMS has implemented a 3.37% cut to Medicare reimbursement across the medical field as a whole. These reductions are often touted as victories for physicians by lawmakers since they are less than the previously planned 8.5% decrease. Using a narrower focus, orthopaedics has experienced more drastic cuts to both total and physician reimbursement as compared to many other specialties [1]. From 2000-2015, orthopaedic surgeons lost an average of 29% of their total reimbursement rates, with price per wRVU decreasing by an average of 39% [2]. In that same period, adult reconstruction physicians lost 39% and 45% of their reimbursements and wRVUs respectively [2]. Since 2009, Medicare has reduced its total spending on elective primary total joint replacement (TJA) by more than $1 billion annually [3]. Moreover, current literature has predicted that orthopaedic surgical work will be compensated at the same hourly rate as orthopaedic clinical procedures as early as 2024 [4]. Given that these figures were made prior to the most recent CMS cuts, the outlook for orthopaedic TJA reimbursement is concerning.

This history of decreasing Medicare reimbursement, combined with outpacing economic inflation, an already elevated level of burnout within the field of orthopaedics, and the increasing size of the Medicare joint replacement patient population, poses a critical concern for the future of access to quality care. Prior studies have examined historical rates of Medicare reimbursement over isolated periods of time.

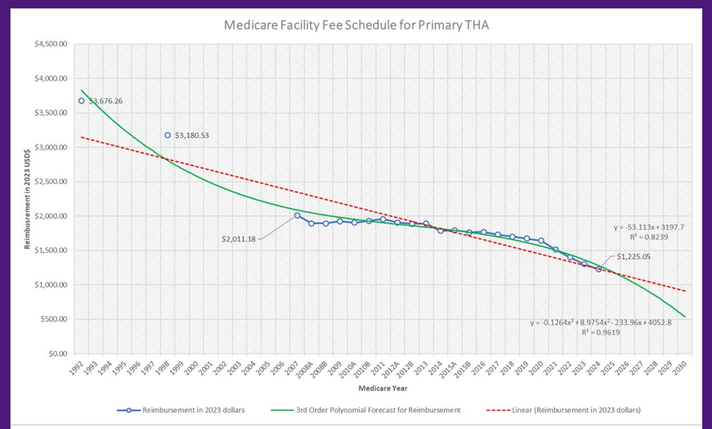
METHODS

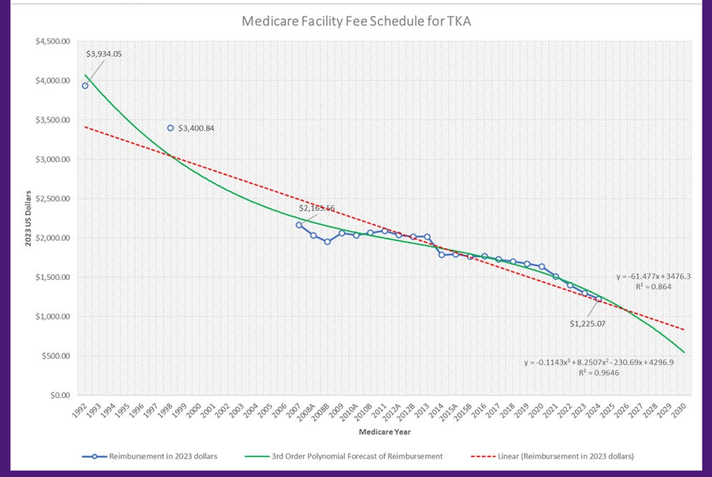
The CMS physician fee schedule lookup tool was used to capture the Medicare reimbursement rates, conversion factors (CF), and work relative value units (wRVU) from 2007 to 2030. The national payment amounts for the following CPT codes pertaining to primary and revision TJA were identified: 27130, 27440, 27132, 27134, 27137, 27138, 27486, 27487, 27488. All values were then converted to 2023 USD using the BLS CPI calculator. The calculator was utilized in this study to directly convert the value of all reimbursement to 2023 USD to both provide a uniform standard of comparison and remove the confounding variable of inflation from past and future monetary values. The use of this calculator allows for reimbursement values from the past, as well as predictions from the future, to be directly comparable across years.

Physician specific total reimbursement for all procedures was calculated from (wRVU*CF)*(1+CPI) using BLS CPI values adjusted for inflation to 2023 USD, with 2024 USD values being back-converted to 2023 USD to show how new cuts follow the predicted forecasts. Several forecast graphs were created showing the trend of Medicare global period reimbursement from the year 1992 to May 2030 [5]. Within each forecast graph, a third order polynomial and/or linear trend line was fit to all of the Medicare reimbursement timelines and extrapolated to 2030. Using this modeling system allows for prior reimbursement to not be under or over-assumed and for all values, both current and past, to contribute accurate predictive power for future predictions. Linear forecasts are included on graphs, where clearly legible, to demonstrate this phenomenon.

The R^2 correlation constants were calculated for each timeline independently and displayed within the graph. The equations for the lines of best fit were also captured and used to find the predicted values for reimbursement through 2030. A per hour income rate for primary procedures was calculated, using both the predictive models and literature established RUC times, by plugging the number identifier (0-43) of the year in question into the predictive equation associated with said procedure and dividing that outcome by (RUC time in min/60(min/hour)) [6].

Medicare reimbursement trends are unsustainable





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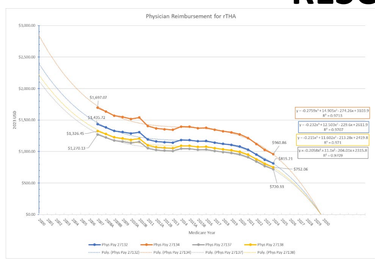
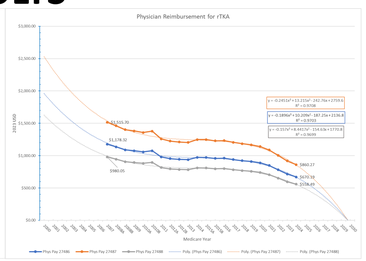
RESULTS





The total reimbursement, according to Medicare facility fee schedules and prior literature, of primary THA and TKA have decreased 66.67% and 68.86% since 1992, respectively [5]. The data fit the third order polynomial trendline with a correlation constant of 0.9619 and 0.9646 for pTHA and pTKA, respectively. The corresponding linear trend lines had correlation coefficients of 0.8239 and 0.864 for pTHA/pTKA. The third order system predicted total reimbursement decreases of 85.36% and 86.14% for THA and TKA, respectively, by 2030.

From 2007 to 2024, Medicare revision THA and TKA saw a corresponding average decline of 43.30% and 43.13%, respectively (Figures 5+6), equating to a 2.54% average loss per year. When examining the mathematical forecasts, all correlation constants were greater than 0.9699. Moreover, revision procedure codes could earn less than the equivalent of $200 2023 USD for the Medicare global period by the year 2029, and are expected to cost the surgeon money, when equated to 2023 USD, as early as 2030.

FUTURE DIRECTIONS

As time progresses and new Medicare cuts/adjustments are made, the trends created within this study should be re-examined to assess their predictive ability. Moreover, as economic factors such as inflation and interest rate fluctuations occur, those factors should be incorporated to further evaluate if the data set forth in this study holds as a good weathervane for what is to come. As it stands, this study incorporates all available information and attempts to make an assertion that is as clear and without confounding variables as possible.

Another avenue for expansion of this study is to expand its methodology and predictive models to other areas of reimbursement within orthopaedics, or the field of medicine writ large. Do the findings here align with those of other fields or subspecialties? Is orthopaedics alone in the fight against bleak financial futures, or is all medicine along with them? These questions are pertinent things to examine with future research.

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