The Evolution of Surgeon-Industry Relationships in the First Seven Years of the Open Payments Database

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INTRODUCTION:

Surgeon-industry relationships yield transformative changes in patient care. Within the field of orthopaedic surgery, such relationships can lead to funding for clinical trials, innovations in surgical technique, novel operative modalities, and rich educational opportunities for trainees and experienced surgeons. Despite the depth and breadth of these potential benefits, the magnitude of the relationship between orthopaedic surgeons and industry may threaten surgeon credibility if transparency about the nature of these relationships is not maintained. To address this issue, the Centers for Medicare and Medicaid Services publishes data on the amount and types of payment between industry and physicians via the Open Payments Database (OPD).

To date, relatively little is known about the evolution of industry payments to orthopaedic surgeons. Specifically, the COVID-19 pandemic introduced a complexity into the surgeon-industry relationship that has not been studied. For example, in a nationwide survey of orthopaedic surgeons by the AAOS, the majority of surgeons believed that the pandemic would alter the surgeon-industry relationship. The present study addresses these gaps in the literature by asking 1) How did industry payments to orthopaedic surgeons evolve from 2014 through 2020? 2) Did the relative contribution of different payment reasons to the overall payments from industry to orthopaedic surgeons change during over period? 3) To what extent did the financial aspect of the surgeon-industry relationship change in 2020 relative to pre-COVID trends? 4) Are there limitations in using the OPD to study these and similar questions for orthopaedic subspecialties?

METHODS:

Inflation-adjusted early payments to orthopaedic surgeons were calculated for 2014 to 2020. The median payment and interquartile range, and the number of surgeons receiving payments in each year of the study period also was determined. To better understand the concentration of payments among orthopaedic surgeons, we determined the percentage of overall payments made to the top 10%, top 5%, and top 1% of all recipients. Next, we subclassified overall payments by payment reason (royalties, consulting, food, speaking, travel, grants, research, other) and quantified the total amount of payments and the relative contribution of each pre-specified payment reason to the overall total payments for each year of the study period. Third, we qualitatively describe changes in OPD payments in year 2020 compared to the pre-COVID period. Finally, due to concern for surgeon subspecialty misclassification, we determined the number of surgeons listed in the OPD as “general orthopaedic surgeons.”

RESULTS:

During the study period, total payments increased from $455,228,087in 2014 to $556,798,981 by 2019, but subsequently decreased to $437,360,797 in 2020.The median payment size across all payment reasons was $428 in 2014, increased to $677 by 2019, and decreased to $337 in 2020. The concentration of payments among the highest earning surgeons also remained relatively stable, with the top 10% of payment recipients accruing over 95% of the total payments in 2020. We found a yearly decrease in the proportion of payments for royalties and licensing until the COVID-19 pandemic (from 67.7% of total payments in 2014 to 57.4% in 2019 and 68.4% of total payments in 2020) and an increase in the proportion of payments for consulting fees initially, followed by a return to 2014 levels (from 14.0% of total payments in 2014 to 18.1% in 2018, and decreased to 12.4% in 2020). Finally, we found that 60.0% of all orthopaedic surgeons in the OPD are listed as generalists without a subspecialty practice scope listed in the database.

DISCUSSION AND CONCLUSION:

Within the right context, relationships between orthopaedic surgeons and industry can lead to transformative improvements in patient care. However, the bedrock of these relationships should be transparency. The present study found that the relationship between industry and orthopaedic surgeons remained relatively stable since the inception of the OPD. Whereas the trend prior to the pandemic was away from royalty and licensing fees and toward consulting fees, the relative contributions of these payment types returned to 2014 levels in year 2020. The pandemic-induced shut down of many elective practices in 2020 was the year with the lowest recorded total payment value since the establishment of the OPD. These results are in keeping with the expectation of orthopaedic surgeons surveyed by the AAOS, who anticipated a meaningful effect of the pandemic on industry-surgeon relationships.

This study also redemonstrated that the OPD cannot accurately be used in research on orthopaedic subspecialties. The majority of orthopaedic surgeons in the OPD do not have a subspecialty listed, a finding in contrast to a report from the AAOS that showed only 15% of orthopaedic surgeons in the United States classify themselves as generalists. This finding is important because it highlights potential misclassification in research efforts that make use of the OPD.

Throughout the transition toward value-based payment in the United States, and amidst the recovery from the COVID-19 pandemic, the relationship between industry and orthopaedic surgeons will likely face increasing scrutiny. Understanding the epidemiological evolution of these relationships and the ways in which changes in practice patterns influence these relationships will therefore be of increased value to patients, policy makers, and surgeons.