Industry Involvement in Otolaryngology: Updates from the 2017 Open Payments Database

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Abstract

Objective. To characterize drug and device industry payments to otolaryngologists in 2017 and compare them with payments from 2014 to 2016.

Study Design. Retrospective cross-sectional analysis.

Setting. 2017 Open Payments Database.

Subjects and Methods. We identified otolaryngologists in the Open Payments Database receiving nonresearch industry payments in 2017. We determined the total number and value of payments and the mean and median payments per compensated otolaryngologist. We characterized payments by census region, nature of payment, and sponsor subspecialty.

Results. A total of 8131 otolaryngologists received 66,414 payments totaling to $11.2 million in industry compensation in 2017. This is decreased from $14.5 million in 2016. The mean and median payment per compensated otolaryngologist was $1383 ($10,459) and $159 ($64-$420), respectively. Of the total compensation, 85% was received by the top 10th percentile of otolaryngologists. Speaking fees accounted for $3.1 million (28% of total payments), and food and beverage was the most common payment type (57,691 payments; 87%). Consulting fees decreased by $1 million from 2016 to 2017, and ownership interests decreased by $1.2 million from 2016 to 2017. The south had the highest total compensation value ($4.2 million), while the west had the highest mean payment value ($1561). Rhinosurgery accounted for the highest proportion of payments of all otolaryngology subspecialties at $3.9 million (34%).

Conclusion. Industry payments to otolaryngologists decreased to $11.2 million in 2017 from $14.5 million in 2016. Much of the decrease can be attributed to decreases in consulting fees and ownership payments. It is important that otolaryngologists remain aware of changes in industry funding with each release of the Open Payments Database.

Keywords

industry, Open Payments Database, Sunshine Act, conflict of interest, industry interactions

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The Physician Payments Sunshine Act was passed in 2010 in an effort to increase the transparency of industry financial interactions with physicians.¹,² This mandated the reporting of all financial transactions between drug and device companies to physicians, not only in the form of cash but also in the form of meals, compensation for travel and housing, speaking fees, and consulting fees. These data have been made publicly available in the Open Payments Database to allow patients to evaluate physicians’ potential conflicts of interests.

Many were not in favor of this, claiming that the data would be taken out of context or that these financial ties did not affect care.³ A growing number of studies, however, have suggested that even nominal financial interactions can be associated with practice patterns. In otolaryngology, industry compensation has been associated with increased prescriptions of brand-name nasal steroids and proton pump inhibitors and increased performance of balloon sinus dilatations.⁴-⁶ Although industry-physician interactions are important for health care innovation and education, these findings suggest that these interactions may be harmful. Furthermore, studies have shown that few patients and providers are aware of the available data; therefore, it may not be achieving its stated goal of increased transparency.⁷

We previously showed that industry payments to otolaryngologists increased 67% from 2014 to 2016. We found that otolaryngologists receive less payment than comparable surgical subspecialties but that payments to otolaryngologists were increasing out of proportion to the overall database and almost every other specialty examined. Although

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limited to 3 years of data, we speculated that this may rep-resent an overall trend of increased physician-industry interac-
tion within otolaryngology.8

In this study, we used the 2017 release of the Open 
Payments Database to evaluate whether these trends are 
indeed continuing. Specifically, we characterized industry 
payments to otolaryngologists in 2017 and compared these 
to values in previous years. By distilling this complicated 
data set, we strive to maintain awareness of changes in 
industry interactions within otolaryngology.

Methods

Data Source

The Physician Payments Sunshine Act compiles information 
about all payments valued over $10 from drug and device 
companies to physicians online in the publicly available 
Open Payments Database.2 These include payments for 
travel, meals, gifts, speaking fees, consulting, and ownership 
but exclude payments for research. The database includes 
the name and demographic information of the receiving 
physician, the company making the payment, and any drug 
or device with which the payment was associated. 

All nonresearch payments made to physicians with a spe-

All nonresearch payments made to physicians with a spe-
cialty under the umbrella of otolaryngology, including sub-
specialties, were included for analysis.

Variable Definitions

Payments were characterized by the nature of payment: 
travel, meals, gifts, grants, honoraria, education, royalty, 
entertainment, speaking fees, consulting, and ownership. 
Payments were also characterized by geographical region of 
the receiving physician into West, Midwest, South, and 
Northeast; Alaska, Hawaii, and Puerto Rico were excluded 
from census-specific analysis.9 Companies were classified 
by otolaryngology subspecialty into allergy, rhinology, 
facial plastics, otology, surgical devices, and other/general 
by review of company websites. Companies with products 
in multiple categories were categorized as “other/general.”

Statistical Analysis

We determined the number of and total value of all nonre-
search payments made to otolaryngologists in 2017. We 
then determined the number of compensated otolaryngolo-
gists and the mean and median number of payments and 
total payment amount per compensated otolaryngologist. 
This analysis was then performed stratified by receiving 
physician census region. We calculated the total payment 
amount to otolaryngologists in the top 1% and 10% versus 
bottom 99% and 90%. We then classified payments by 
nature of payment and industry sponsor subspecialty and 
characterized the total value of, number, and mean value of 
payments in each category. Means were compared between 
categories via analysis of variance. All statistical analysis 
was performed in STATA 15.0 (StataCorp, College Station, 
Texas, USA). Statistical significance was considered at 
$P < .05$. This study did not require approval by the Yale

institutional review board as the Open Payments Database is 
publicly available.

Results

Payment within Otolaryngology

Total payment to otolaryngologists was $11.2 million in 
2017. The total number of payments to otolaryngologists 
was 66,414, and the number of compensated otolaryngolo-
gists was 8131, out of 9411 active otolaryngologists in the 
United States (86%).10 The mean payment per compensated 
entolaryngologist was $1383 (standard deviation [SD] = 
$10,459), and the median payment was $159 (interquartile 
range [IQR] = $64-$420). Each compensated otolaryngolo-
gist received a mean of 8.3 (SD = 13.0) and median of 4 
(IQR = 2-4) payments in 2017. Trends in payments com-
pared with previous years are shown in Figure 1.

When the subset of physicians in the top 10th percentile for 
industry compensation was examined separately, they received 
$9.5 million (85% of total compensation) versus $1.7 million 
for those in the bottom 90%. The top 1% received $5.7 million 
(51%) versus $5.5 million in the bottom 99%.

Compensation by Payment Type

Compensation by payment type is shown in Table 1. Overall 
by number of payments, food and beverage accounted for 
57,691 (87%) of all payments. Speaking fees accounted for 
the highest value of all payment types, at $3.1 million (28%), 
followed by consulting at $2.9 million (26%). The highest 
mean payment value was for ownership interests, with a 
mean value of $42,624 (SD = $97,457). Trends in payment 
over the study years are shown in Figure 2.

Compensation by Census Region

By region, the southern US accounted for the highest total 
value of compensation, at $4.2 million, and the highest 
number of payments, at 3253. The highest mean value was 
found in the west, at $1561 (SD = 10,007), followed by the
northeast at $1558 (SD = $15,313). Trends in the distribution of payments by region as compared with prior years are shown in Figure 3.

### Compensation by Sponsor Subspecialty

By sponsor specialty, rhinology accounted for the highest value of payments, at $3.9 million (34% of total compensation), and number of payments, at 30,418 (46%). The specialty with the next highest total compensation was surgical devices, at $2.5 million (22%), and the next-highest subspecialty in terms of number of payments was general otolaryngology, with 16,750 payments (25%). The mean payment value was highest for otology, at $411 (SD = $4409), followed by facial plastics at $357 (SD = $1263). The proportion of payments accounted for by each subspecialty compared with previous years is shown in Figure 4.

### Discussion

Multiple previous studies have used the Open Payments Database to examine industry payments to physicians in both otolaryngology and other specialties.8–11,13 We had previously identified a trend of increasing compensation in otolaryngology from 2014 to 2016, to a high of $14.5 million in 2016, that was not seen in the overall database or in other surgical and nonsurgical subspecialties.8 In contrast to this, we found here that overall payment decreased from $14.5 million in 2016 to $11.2 million in 2017; however, that is...
still higher than $9.9 million in 2015. During this period, the value of general payments in the overall database was relatively constant, decreasing only slightly to $8.4 billion in 2017 from $8.8 billion in 2016 and $8.4 billion in 2015. This suggests that these represent real changes in industry funding of otolaryngologists rather than reporting trends or errors, which would likely be reflected in the larger database. We found that payments for ownership, consulting, and travel/lodging accounted for much of this decrease, while food and beverage payments and speaking fees remained relatively constant. While all industry payments to physicians have the potential to cause conflicts of interest, we have previously argued that payments for services such as consulting and speaking may represent some physicians spending a significant proportion of their time collaborating with industry and working to develop new drugs and devices. These physicians therefore may rely on industry payments for a large part of their income, and these payments may represent physicians being justifiably compensated for their time and expertise. The decrease in payments for consulting may represent physicians being justifiably compensated for their time and expertise. The decrease in payments for consulting may be a random fluctuation or it may represent a downturn after a significant uptick in device innovation in otolaryngology.

There was also a marked decrease in ownership payments. Given this significant decrease, we performed a post hoc analysis of the companies making ownership payments in 2016 and 2017. In 2016, 14 total ownership payments were made, accounting for $1.7 million, all of which were made by a single company. This company’s main product was acquired by a larger parent company in 2016, and therefore, the child company did not make any ownership payments in 2017. However, the parent company paid approximately $400,000 in ownership payments to otolaryngologists in 2017, which we speculate is for the same product given that the parent company did not make any ownership payments to otolaryngologists in the prior year. Even so, this decrease of $1.3 million in payments explains much of the decrease in ownership payments—and payments overall—that we observed in this study. This also accounts for much of the decrease in payments made to the western United States, which in 2016 received $1.4 million in ownership payments from this company. It is worth noting, however, that this decrease accounts for less than half of the overall decrease observed, and therefore the prior findings are certainly still significant.

It is also worth noting that, even though consulting and ownership fees are typically high-value payments made to a small number of physicians, these decreases likely still affect conflicts of interest in otolaryngology as a whole. Pharmaceutical companies typically target these large-value payments at key decision makers, whose practice patterns can influence others. Therefore, these decreases may affect the practice patterns of a broader group of physicians.

As a result of the decrease in these high-value categories, the payment distribution became slightly less skewed: the mean payment per compensated otolaryngologist decreased, and the value of the ratio of mean to median payment values, typically thought to represent equality of distribution, decreased from 10.6 in 2016 to 8.7 in 2017. However, this is still higher than the value of 7.5 in 2015. In addition, when one examines the top-paid otolaryngologists, trends seen in 2016 are consistent: in 2017, the top 1% of compensated otolaryngologists received 51% of total compensation and the top 10% received 85% of total compensation, similar to 55% and 86% in 2016.

Payments for food and beverages, on the other hand, stayed relatively constant. By number of payments and number of physicians paid, these payments make up the vast majority of payments, although they are typically low value. Given their low monetary value, many contend that they do not affect practice patterns; however, research has suggested that this is not true. DeJong et al found that physicians receiving even a single meal, with a mean value of less than $20, promoting a brand-name drug had a higher odds of prescription of that drug over others in its class. They observed that they were not subtle: the odds of physicians prescribing desvenlafaxine over other serotonin-norepinephrine reuptake inhibitors or selective serotonin reuptake inhibitors was 2.2. In addition, receipt of additional meals further increased this odds. We have shown similar associations in balloon sinus dilations and prescriptions of proton pump inhibitors and nasal steroids. We have shown similar associations in balloon sinus dilations and prescriptions of proton pump inhibitors and nasal steroids. We have shown similar associations in balloon sinus dilations and prescriptions of proton pump inhibitors and nasal steroids. We have shown similar associations in balloon sinus dilations and prescriptions of proton pump inhibitors and nasal steroids. We have shown similar associations in balloon sinus dilations and prescriptions of proton pump inhibitors and nasal steroids. We have shown similar associations in balloon sinus dilations and prescriptions of proton pump inhibitors and nasal steroids.

By subspecialty, we found that the proportion of payments accounted for by subspecialty companies continued to increase and that general payments accounted for an even smaller proportion of payments than previously. We had previously found that rhinology accounted for the largest proportion of payments, which remained true; however, the proportion of payments in rhinology decreased from 2016. On post hoc analysis, we found that much of the payment within rhinology is made for consulting and speaking fees, and the marked decrease in consulting payments may explain the decrease within rhinology. There has recently been a lot of device innovation within rhinology, and we previously speculated that physician collaboration on these
projects explained the high compensation in rhinology. However, new devices typically face challenges with physician adoption, insurance coverage, and patient agreement, all of which may be exacerbated in an increasingly saturated market. Companies therefore may be decreasing investment in new device innovation, and, as a result, decreasing consulting fees to otolaryngologists. Many of these devices have proven incredibly useful, decreasing surgical morbidity and potentially allowing surgical procedures to be performed in the office.  

This the first downturn in industry compensation to otolaryngologists seen since a full year of data first became available in 2014. There was initial speculation that the Physician Payments Sunshine Act would cause physicians to decrease or cut industry ties due to concern about these payments being publicly available.  

The decrease seen in 2017 may represent the beginning of this downturn. If this trend continues, this will represent a large shift in physician interactions with industry. We have previously found that physicians receiving industry payments are more likely to prescribe brand-name drugs and perform procedures using devices for which they have been compensated.  

These findings were significant: 56% of physicians who received compensation associated with Nasonex prescribed Nasonex over cheaper generic nasal steroids, versus just 21% of noncompensated physicians.  

Spending on equivalent brand-name drugs is a large area of unnecessary health care expenditure. In this way, the decrease in industry payments to otolaryngologists may help reduce conflicts of interest and the unnecessary spending it can cause.  

However, decreased industry interactions may also affect the positive aspects of industry-physician collaborations that are integral for the development of clinically useful products.  

If physicians’ financial compensation for their time and expertise is publicly criticized, fewer physicians may be willing to take on these important roles. Similarly, if drug companies cannot lure physician audiences with free meals, they may struggle to make physicians aware of new drugs that could benefit patients.  

One of the biggest limitations of this study is that, with only 4 years of data, the overall trend of payments remains unknown. Furthermore, if payments are decreasing, we are unable to elucidate the causes of this change. In addition, there have been concerns about the accuracy of Centers for Medicare & Medicaid Services data reporting, which could account for some of the trends observed.  

In addition, it is impossible to differentiate compensation for physician time and expertise from “freebies,” because a given payment type—food, education, or travel, for example—may be associated with either. The exact nature of payments may be changing in meaningful ways that are not reflected in the Open Payments Database. Lastly, although many studies have associated these payments with physician behavior, this may not be a causal relationship. Despite these limitations, we feel it is important that otolaryngologists maintain awareness of physician-industry relationships within the specialty.

Conclusions

In conclusion, in this study we used the Open Payments Database to characterize industry payments to otolaryngologists in 2017. We found that total payments have decreased to $11.2 million from their high of $14.2 million in 2016 but are still higher than 2015 values of $9.9 million. We found that much of this decrease was accounted for by decreases in high-value consulting fees and ownership payments with little change in smaller-value food and beverage payments. It is unclear if 2016 payments were an aberration from an overall gradual increase or if industry payment to otolaryngologists is, in fact, beginning to decrease. Otolaryngologists should remain aware of trends in physician-industry relationships.

Author Contributions

Elliot Morse, conception and design, acquisition and analysis, drafting and revision, final approval, agreement to be accountable; Elisa Berson, conception and design, critical revision for intellectual content, final approval, agreement to be accountable; Saral Mehra, conception and design, critical revision for intellectual content, final approval, agreement to be accountable.

Disclosures

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References


