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## Industry Payments to Urologists in 2014: an Analysis of the Open Payments Program

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### Abstract

**Introduction**—Physician-industry relationships are common in the U.S. and a source of considerable public scrutiny. The Open Payments program is a public database of all physician-industry financial interactions in the U.S. administered by the Centers for Medicare & Medicaid Services. In this study we describe payments received by urologists for research and nonresearch purposes.

**Methods**—The number and value of payments to urologists were determined using Open Payments program data. The nature of each payment and identity of industry partners were analyzed. Descriptive statistics were calculated separately for research and nonresearch payment data. The total number of practicing physicians per specialty was obtained from the Association of American Medical Colleges Physician Specialty Data Book for 2014.

**Results**—In 2014, 8,620 urologists had nonresearch financial relationships with industry for a total value of \$32.4 million, with 2,698 urologists receiving more than \$1,000 in total nonresearch payments. Urologists as a whole had the 8th highest total value received of all specialties. A total of \$22.4 million was spent by industry for urology directed research funding, representing a small proportion of the more than \$3 billion spent by industry on medical research in 2014. The majority (93.1%) of urology directed research funding was provided to nonteaching institutions.

**Conclusions**—The Open Payments program database is an important public database of financial transactions between industry and physicians. A large proportion of urologists received nonresearch related transfers of value from industry sources. Industry supported research funding is primarily awarded to nonteaching institutions.

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## Keywords

industry; health expenditures; conflict of interest

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Physician-industry relationships are prevalent in the U.S. health care system, with one survey reporting that 94% of physicians have a financial relationship with industry.<sup>1</sup> Some argue that these interactions are essential for research and the development of new drugs and devices.<sup>2</sup> However, critics are concerned about the conflicts of interest that are generated by close financial ties and aggressive marketing strategies.<sup>3</sup> The public has shared this concern in recent years, in part due to several high profile cases and controversies that have put physician-industry relationships under intense scrutiny.<sup>4</sup> In a 2009 report the Institute of Medicine recommended that the U.S. Congress establish a national reporting program for payments from industry to physicians.<sup>3</sup> Following this recommendation CMS established the Open Payments program. The OPP is a public database of payments made to physicians and teaching hospitals by drug and device manufacturers and group purchasing organizations.<sup>5</sup> The program was created as part of the Patient Protection and Affordable Care Act in 2010 and mandates the reporting of all transfers of value greater than \$10 (or \$100 in sum per year).<sup>5</sup> Research related and nonresearch related payments are reported separately.

The first full year of available data includes information about all payments made in 2014. Preliminary analyses have been performed by several groups examining interactions between industry and various medical and surgical subspecialties.<sup>6–10</sup> However, to our knowledge no analysis of current urology specific payments has been published in the peer reviewed literature. While the OPP is a source of a vast amount of public information about payments to physicians and teaching hospitals, it is important for it to be considered in context. To provide this context and make the data more accessible, we analyzed nonresearch payments made to urologists during 2014 and compared these to payments received by physicians from other medical/surgical specialties. Furthermore, we analyzed payments designated as research payments made to urologists, teaching hospitals and nonteaching institutions.

## Methods

We queried the OPP database for all transactions in 2014. The research payments, nonresearch payments and physician supplement files were downloaded from the CMS website (<https://www.cms.gov/OpenPayments/Explore-the-Data/Dataset-Downloads.html>). The physician supplement file was used to correlate payment records with physician specialty. All payments were categorized into 1 of 39 specialty groups. All payments made to urologists were identified. These payments were analyzed for payment type and company making the payment. Research and nonresearch payments were analyzed separately. Teaching hospitals were identified by CMS and teaching hospital lists were supplied by CMS to industry to assist with categorizing payments (<https://www.cms.gov/OpenPayments/About/Resources.html>).

The 39 physician specialty group classifications and the number of active physicians in each specialty group in the U.S. were obtained from the 2014 Physician Specialty Data Book by the Association of American Medical Colleges.<sup>11</sup> Data management and descriptive statistics were conducted using SAS® 9.3. This study was approved by Rutgers Biomedical and Health Sciences institutional review board (Pro20150002580).

## Results

### Nonresearch Payments

In 2014, 8,620 urologists in the U.S. received nonresearch payments from industry sources, totaling \$32,416,510. The median number of payments received was 15 and the median total value of payments was \$512.33. Of the urologists with any transactions recorded 31.3% received more than \$1,000 in total value and the top quartile of urologists received \$1,303.06 or more during the year. The types of payments received by urologists in 2014 are represented in figure 1, with the largest proportion of payments for speaker's fees (24.3%), followed by consulting (16.7%) and ownership/investment interests (15.1%). In sum, 307 companies made 233,733 individual financial transfers to urologists. Payments to urologists from all companies ranged from \$4.56 to \$3.8 million. The mean total value of payments per corporation was \$104,654.05 and the median total value was \$828.52. The 10 corporations with the highest total value of payments to urologists are shown in table 1.

Evaluated in the context of payments to all specialties, urologists had the 8th highest median total value of payments (fig. 2). Urology ranked 13th of 39 specialties in the proportion of U.S. physicians receiving more than \$1,000 in total value.

### Research Payments

In 2014, 4,430 payments were made to urologists for research purposes, totaling \$22.4 million. This ranked 23rd out of 39 recorded specialties and represents 0.7% of the more than \$3 billion spent on research across all specialties (fig. 3). Overall 53 industry sources made research payments to urologists in 2014, ranging from \$4.2 million to \$1,165 million. The mean total value of payments for research was \$423,174.68 and the median total value was \$96,879.80. The 10 corporations with the highest total value of research payments are listed in table 2. Of the contributions to urological research \$20.9 million (93.1%) was directed to nonteaching institutions whereas only \$1.5 million (6.7%) went to teaching hospitals (fig. 3).

## Discussion

The OPP is the only national, comprehensive database of financial relationships between physicians and industry. Previous analyses of incomplete data from 2013 have been performed for several specialties, but to our knowledge the current study is the first analysis of urologists in the peer reviewed literature.<sup>6-10,12</sup> Our evaluation of data from 2014 demonstrates that the field of urology has a significant financial relationship with industry for research and non-research payments, ranking in the top 10 among all specialties for the total value of nonresearch payments received.

These data are important for several reasons. They are public facing and searchable at an individual physician and individual payment level. Each physician's financial relationships are available in this database and it is important for urologists to manage their relationships with industry appropriately. Additionally, CMS has created a process for the review and dispute of payment records that urologists should be aware of and use to ensure accurate reporting. This is the largest available database of financial relationships between physicians and industry. Furthermore, the availability of these data also encourages each physician and specialty to examine its level of association with industry and the potential for conflict of interest created by these financial relationships.

While there is limited evidence regarding the effect of financial conflicts of interest on medical practice, several studies have indicated an association between financial relationships and increased use of industry products. One study of industry representative visits (which may be associated with payments for food or gifts) noted an increase in the use of that company's device and an increased overall procedure cost.<sup>13</sup> Other studies have found that receiving payments from industry (eg speaking fees, free meals) is associated with changes in prescribing practices and requests for specific drugs to be added to a hospital formulary.<sup>14</sup> Finally, a systematic review of industry sponsored research concluded that sponsorship of a drug or device study by the manufacturing company led to more favorable results and conclusions than sponsorship by a different source.<sup>15</sup> Although the OPP was created as a result of these concerns about the effects of financial relationships between physicians and industry, the effects of the disclosure of these transactions are not fully understood and may not mitigate the bias of financial conflict of interest.<sup>16,17</sup>

A previous analysis of OPP data suggested that orthopedic surgeons receive a higher value of payments per provider than other surgical specialists.<sup>7</sup> However, in that study 69.5% of the total payment value to orthopedic surgeons was for royalty or licensing and was directed to only 1.7% of U.S. orthopedists. Therefore, the authors argued that the total value of payments is a poor indicator of possible bias as payments for royalties are fair compensation for bona fide services provided by a small group of orthopedic surgeons. In the present study nonresearch payments to urologists were most often for speaker's fees and consulting, which combined to account for 41% of the total value of payments. Payments for royalties accounted for only 11% of the total value of payments to urologists. While there is no specific evidence comparing the effects of different types of payments, it is possible that payments for gifts, food and entertainment carry a greater risk of bias than payments for royalties. Further study is needed to better characterize the effects of industry payments on patient care decisions and whether the reason for industry interaction is significant.

The OPP data included in this study helps provide more detail about the relationships between physicians and industry. There is considerable evidence that industry sponsored research is associated with positive findings and a risk of bias.<sup>15</sup> It is for this reason that disclosure of industry relationships is a standard in medical research publishing.<sup>18</sup> The American Urological Association Code of Ethics states, "I will disclose any personal commercial interests, including any gifts of more than minimal value from commercial firms or significant stock and security investments in commercial firms if there may be any effect on patient care, research, medical decisions, etc."<sup>19</sup>

More than \$3 billion is spent by pharmaceutical drug and device manufacturers annually for sponsored research in the United States. Although only a small proportion of that amount is directed to urology research, it is notable that the majority of research funding is directed to nonteaching institutions, as they may have less rigorous conflict of interest policies or other regulatory requirements than their academic counterparts. While these data cannot determine the reason urologists received a small proportion of research payments, there are likely several factors involved. Urologists make up a relatively small proportion of U.S. physicians. In addition, the major value of research payments is likely from the donation of drugs and devices for use in clinical trials. This may explain the large discrepancy in research payments directed to hematology/oncology compared to other specialties.

This database has significant strengths. Its national scope, legally mandated reporting and timely release of data by CMS make this a valuable resource. However, this analysis has limitations that must be considered. The OPP excludes some payment data, specifically those payments related to research on new products or new indications, as reporting this research may inadvertently reveal industry strategy. Additionally, payments to nurse practitioners, physician assistants and other nonphysician staff are not included. This is a new database and, while a mechanism for physician review and dispute of incorrect reports exists, it may not yet be widely used, leading to erroneous reporting. The total number of active physicians in each specialty, obtained from the Association of American Medical Colleges Physician Specialty Data Book, is derived from the American Medical Association Physician Masterfile. However, the OPP database may include physicians who are retired or inactive as well as trainees. This discrepancy may have led to small errors in the calculation of proportions. While industry sources of payments are required to disclose any payments to physicians and teaching institutions, disclosure of payments to nonteaching centers is not mandatory. This may have led to the underreporting of industry payments to nonteaching institutions. Furthermore, values for research payments are likely to be heavily influenced by the value of donated pharmaceuticals, limiting the value of that analysis. Finally, while disclosure of financial transactions is a common method of managing conflicts of interest, it is not perfect. Critics argue that an anti-industry bias has been created by the media and governmental inquiries into conflicts of interest and may unfairly judge industry connections.<sup>20,21</sup> This is especially concerning as patients and the media can access the OPP information without context as to why certain payments were made or how they were used.

In conclusion, the Sunshine Act OPP is a legally mandated nationwide database of physician financial relationships with industry. More than 8,000 U.S. urologists received nonresearch payments from industry in 2014 with a total value of more than \$32 million. Additionally, only a small percentage of the more than \$3 billion donated by industry for research purposes was targeted to urological research, the majority of which was provided to nonteaching institutions. The OPP database is an important resource for physicians and researchers to understand the state of physician-industry relationships in the United States.

## Acknowledgments

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## Abbreviations and Acronyms

<b>CMS</b>	Centers for Medicare & Medicaid Services
<b>OPP</b>	Open Payments program

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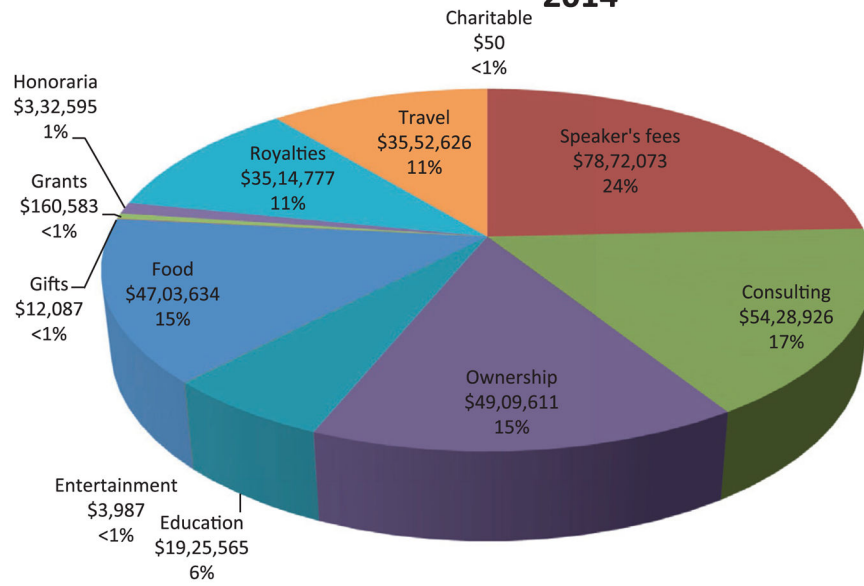
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### Non-Research Industry Payments to Urologists in 2014



**Figure 1.**  
Category of nonresearch payment received by urologists

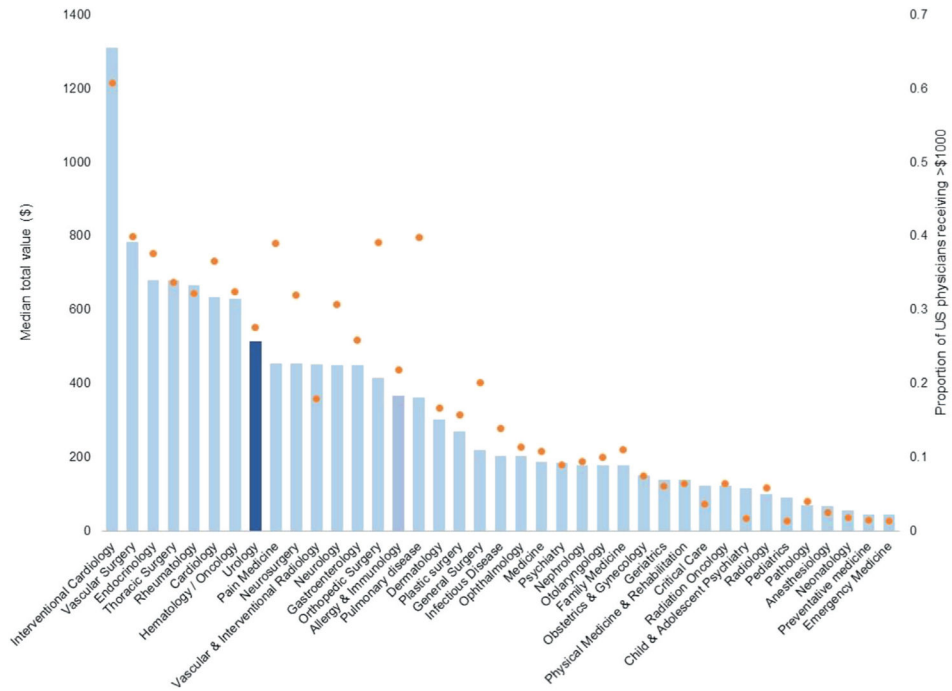
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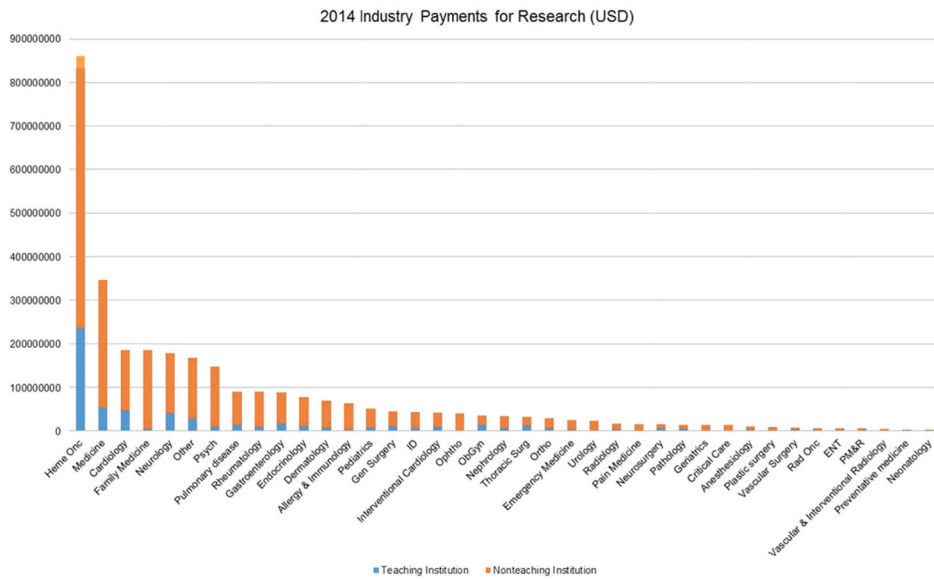
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**Figure 2.** Comparison of various specialties’ nonresearch payments received. Bars represent median total value of payments received. Circles represent proportion of active U.S. physicians in each specialty with more than \$1,000 in total value received.



**Figure 3.** Industry payments for research directed to various specialties at teaching and nonteaching institutions. *Heme/Onc*, hematology/oncology. *Psych*, psychiatry. *Gen surgery*, general surgery. *ID*, infectious disease. *Ophtho*, ophthalmology. *ObGyn*, obstetrics and gynecology. *Ortho*, orthopedic surgery. *Rad Onc*, radiation oncology. *ENT*, otolaryngology. *PM&R*, physical medicine and rehabilitation.

**Table 1**

Top 10 industry sources of nonresearch payments to urologists by total value

	<b>Total Payments (\$)</b>	<b>No. Transfers</b>	<b>% of All Nonresearch Payments</b>
Astellas Pharma US, Inc.	3,823,459	52,777	11.9
American Medical Systems Inc.	3,741,757	13,694	11.6
Cook Incorporated	2,191,323	1,779	6.8
Coloplast Corp	2,122,036	7,345	6.6
Auxilium Pharmaceuticals, Inc.	1,703,105	19,905	5.3
Janssen Pharmaceuticals, Inc.	1,360,178	11,044	4.2
Allergan Inc.	1,184,520	11,756	3.7
C. R. Bard, Inc. & Subsidiaries	1,140,231	2,208	3.5
Intuitive Surgical, Inc.	978,805	2,494	3.0
Actavis Pharma Inc.	849,272	15,355	2.6

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**Table 2**

Top 10 industry sources of research payments to urologists

	<b>Total Research Payments (\$)</b>	<b>% of Total Research Payments to Urologists</b>
Janssen Research & Development, LLC	4,226,048.50	18.8
Allergan Inc.	3,853,063.00	17.2
Medivation Inc.	2,489,649.00	11.1
Astellas Pharma Europe BV	1,652,766.88	7.4
Novartis Pharmaceuticals Corporation	1,212,311.00	5.4
Eli Lilly and Company	1,197,770.50	5.3
Millennium Pharmaceuticals, Inc.	1,080,211.00	4.8
Medtronic USA, Inc.	842,162.31	3.8
Pfizer Inc.	702,097.75	3.1
Sanofi and Genzyme U.S. Companies	550,200.69	2.5

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