Industry Financial Relationships in Neurosurgery: Analysis of the Sunshine Act Open Payments Database

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Conflicts of Interest

Dr. McDonald is the Alcan Chair in Neuroscience at UBC, funds from which were used to support this study
Introduction

The 2013 Physician Payments Sunshine Act mandates that US drug and device manufacturers disclose all payments to physicians greater than 10$

- Available annually in the Open Payments Database (OPD)
- [https://openpaymentsdata.cms.gov/](https://openpaymentsdata.cms.gov/)

The OPD facilitates the examination of industry-physician relationships and the disclosure of financial conflicts of interest (COI)

We aimed to determine the prevalence, magnitude and nature of these payments to the neurological surgery specialty in 2015
Methods

Three OPD categories: ‘general payments’, ‘research payments’ and ‘ownership and investment interests’

**General payments** include: royalties and licensing, food and beverage, consulting fees, honoraria, ownership and investment interests, travel, lodging, and entertainment

We accessed records of general payments made to physicians identified by the ‘neurological surgery’ taxonomy code in 2015

The data were analyzed with regards to:

- **Type and monetary value of payment**
- **Companies making payments**
- **Payments in comparison to previous studies**
Results: neurological surgery in the OPD

In 2015 the specialty received $99,048,607.32 in general payments.

83,690 payments were made to 7,613 physicians.

$17,827,878.28 was the largest total in general payments to one physician.

Neurological surgery had the second highest average total payment per physician.

- Orthopedic surgery first.

The mean payment ($13,010) was substantially greater than the median ($114).
Results: distribution of payments

<table>
<thead>
<tr>
<th>Value of Payment</th>
<th>No. of Payments</th>
<th>% of Payments</th>
<th>% of Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-$100</td>
<td>61,243</td>
<td>73.18%</td>
<td>1.70%</td>
</tr>
<tr>
<td>$100-$1000</td>
<td>16,771</td>
<td>20.04%</td>
<td>4.58%</td>
</tr>
<tr>
<td>$1000-$10,000</td>
<td>4,847</td>
<td>5.79%</td>
<td>16.45%</td>
</tr>
<tr>
<td>$10,000-$100,000</td>
<td>732</td>
<td>0.87%</td>
<td>19.66%</td>
</tr>
<tr>
<td>$100,000-$1,000,000</td>
<td>89</td>
<td>0.11%</td>
<td>22.22%</td>
</tr>
<tr>
<td>&gt;$1,000,000</td>
<td>8</td>
<td>0.01%</td>
<td>35.39%</td>
</tr>
<tr>
<td>Total</td>
<td>83,690</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results: types of payments

Food and beverage
- Most commonly reported transaction (74.2%)
- Only 2.5% of total reported monetary value

Royalties and licensing
- 74% of total monetary value of payments
- Only 1.7% of total number of payments
Results: companies

330 companies made payments to neurological surgery in 2015

Medtronic Sofamor Danek USA, Inc. had the highest total spending ($32,011,089.59)

The mean company payment was $300,147.30, and the median $2,177.07

The ten largest payments were made by Medtronic for royalties and licensing
Discussion

The OPD facilitates increased transparency and the evaluation of COI.

Large payments may represent *appropriate compensation for intellectual property and time spent in technology development*

Further research should focus on the impact of these payments on research and patient care.
Summary Points

The neurological surgery specialty has a large number of industry financial relationships.

The high average financial relationship in neurological surgery specialty is driven by a small number of large payments that may represent appropriate compensation for device development.

The OPD will facilitate further research regarding the accuracy of payment disclosures, the nature of these relationships, and their impact on patient care and research.