

Conflict of Interest Reporting in a Surgical Journal

John P. McDonald^{1†}, Ara Khoilyan^{1†}, Kevin Lynch^{1†}, and Brian J. Piper^{1,2}

¹Geisinger Commonwealth School of Medicine, Scranton, PA 18509

²Center for Pharmacy Innovation and Outcomes, Danville, PA 17821

[†]Doctor of Medicine Program

Correspondence: jmcDonald01@som.geisinger.edu

Abstract

Background: Leading journals have developed stringent conflict of interest (COI) guidelines to ensure proper disclosure of financial connections. With the goal of achieving transparency and accuracy in reporting such disclosures, the Centers for Medicare and Medicaid Services (CMS) Open Payments database publishes the data of financial transactions between drug and medical device companies and health care providers. This study investigated if authors in *Annals of Surgery* with the highest compensations according to CMS Open Payments followed disclosure requirements as stipulated by the journal. In addition, different specialties were analyzed.

Methods: This is a cross-sectional study including primary research articles published in *Annals of Surgery* between 2017 and 2020. First and last authors of original articles were screened in the Open Payments database for financial relationships, and contributions between 2017 and 2020 were recorded. The authors with contributions above \$50,000 within the timeframe were further investigated for whether the disclosure requirements were met by comparing the COI statement in the article to the data available on Open Payments. Those with a mismatch were classified as discordant. A Fisher's exact test was conducted to evaluate the association between specialties and concordant reporting.

Results: The total payment amount received by all authors (N = 374) was \$9.46 million, with a median payment amount of \$706.29 (IQR = \$6,378.65) and a range of \$1.13 million. Of the 31 authors with contributions greater than \$50,000, 16 (52%) were found to be discordant. There was no difference in rates of discordance when comparing general surgery, other surgical specialties, and nonsurgical specialties.

Conclusion: More than half of the authors in *Annals of Surgery* did not adequately disclose financial conflicts of interest. Journals may need to reconsider disclosure policies to ensure transparency in surgical research.

Introduction

In 1984, the *New England Journal of Medicine* began requiring authors to disclose financial conflict of interests (COIs) (1). Subsequently, academic journals have developed additional protocols for authors to properly disclose financial ties. The International Committee of Medical Journal Editors (ICMJE) has set guidelines for authors to disclose any potential direct or indirect COI related to the publication or a COI that could be perceived as relevant by readers. This includes any COI within the three years before publication (2).

In surgical fields, substantial financial ties exist between physicians and device manufacturers because of the use of surgical devices. The relationship between commercial

manufacturers and physicians provides a symbiotic opportunity for innovation, although care must be taken to alleviate concerns of influence on research outcomes and patient care. One study looking at the recommendations of robotic surgery found that authors with undisclosed COIs were more than 20% more likely to recommend robotic surgery than those without (3). A recent 2015 study showed only 8 out of 64 (12%) of general and abdominal surgery journals did not require COI disclosure (4), but further work has shown difficulties in adhering to COI disclosure requirements required by most journals. In a study specifically investigating COIs in transcatheter artery revascularization, results showed at least one author in 58 out of 79 studies (73%) received an undisclosed payment (5). Similar findings were shown in studies investigating the COIs of cardiothoracic surgeons (6), surgeons publishing in spinal journals (7), and the top-earning physicians compensated by vascular device companies (8). Of note, three of those studies found those with higher median payments were more likely to accurately disclose COIs than those who did not, which may demonstrate a disconnect in the understanding of what type of payments should be disclosed. While such studies have identified disparities in reporting conflict of interest within specific surgical specialties or with certain surgical devices, our study aims to build upon findings by investigating the broader field of surgery and identifying differences among the subsets.

With the passing of the Sunshine Act, the Centers for Medicare & Medicaid Services (CMS) Open Payments program was established to enhance transparency and provide the public with information about financial relationships between health care providers and pharmaceutical companies, medical device manufacturers, and other entities in the healthcare industry. The CMS Open Payments program requires applicable manufacturers to report payments made to physicians. This includes a wide range of financial transactions such as consulting fees, research grants, travel reimbursements, and even certain ownership or investment interests (9). This data can act as a supplement to the disclosure statements made by authors. Scientific journals play a crucial role in the dissemination of scholarly research and, thereby, should bear the important responsibility of propagating COI disclosure requirements, though third parties such as CMS Open Payments have seemed to engulf this role.

This study investigates if authors in *Annals of Surgery* with the highest compensations according to Open Payments followed disclosure requirements as stipulated by the journal. In addition, we performed an analysis of the differences that may exist in disclosure among gender, specialty, or degree. Our study contributes to the body of literature on the rates of accurate disclosure in a leading journal. *Annals of Surgery* is a surgical journal with high impact, providing a large sample of authors in various surgical specialties that allows a broad inquiry into

disclosure concordance in surgical specialties. Our findings, therefore, can further guide investigation into subspecialties.

Methods

This was a cross-sectional study including primary research articles published in *Annals of Surgery* between 2017 and 2020. *Annals of Surgery* was selected because of its high impact factor (13.787). Articles were included if they were original research articles, and the authors were U.S.-based physicians (N = 272). The first and last authors were screened in the CMS Open Payments database and general contributions between 2017 and 2020 were recorded. We identified 374 unique authors for analysis. Only general contributions were recorded, which included consulting fees, food and beverage, travel and lodging, honoraria, or speaker fees. Contributions classified as research, ownership, patents, and investment were excluded. Authors with total contributions >\$50,000 within the period were investigated for concordance between COI statements and Open Payment contributions (N = 31). Authors were classified as concordant if their COI declaration statement in the journal article matched their Open Payments data. Authors were considered discordant if they lacked or misrepresented a COI declaration statement in the journal article while, according to Open Payments, having ties to companies that manufacture surgical devices or pharmaceuticals relevant to the study. A two-sample unequal variance t-test was performed for identifying difference in median pay between male and female authors. A Fisher's exact test was conducted to evaluate the association between specialties and concordant reporting. Procedures were deemed exempt by the IRB of Geisinger.

Results

The total payment amount received by all authors (N = 374) was \$9.46 million, with a median payment amount of \$706.29 (IQR = \$6,378.65) and a range of \$1.13 million. Over two-thirds (71.4%) of the total authors were male (N = 267) and they amassed 85.2% (\$8.06 million) of total payments, with a mean of \$30,174.01 per author (SD = \$108,865.05). Though male authors received a much greater proportion of the total amount, there was no statistically significant difference found between the mean payment of male and female authors (p = 0.08).

Authors who received payments related to their research and appropriately disclosed this status were considered concordant and those who did not disclose their payments were considered discordant. Over half (52%, 16) of authors were identified as discordant with COI disclosure requirements, while 15 authors (48%) were concordant (Figure 1). Of the 15 authors found to be concordant, 6 disclosed COIs within their article despite evidence suggesting that they did not explicitly need to do so.

After classifying the authors as general surgery, other surgical specialty, and nonsurgical specialty, comparisons were made in discordance rates between specialties. As shown in Figure 2, seven of 13 authors in the field of general surgery, 6 of 12 authors in other surgical specialties, and 3 of 6 authors in nonsurgical specialties were found to be discordant. There were no significant differences observed in rate of discordance between general surgeons and other surgical subspecialties (p = 1.0), general surgeons and non-surgeons (p = .516), or other surgical subspecialists and non-surgeons (p = 1.0).

Discussion

More than half of the authors included in the study failed to adequately disclose COIs. There was no statistically significant difference in rates of discordance between specialties. While it is beyond the scope of this paper to determine why the majority of authors were found to be discordant, research has suggested confusion surrounding when COIs are relevant to disclose. In the language of International Committee of Medical Journal Editors, guidelines exist for authors to disclose any potential direct or indirect COI related to the publication or a COI that could be perceived as relevant by readers (2). This element of perception may explain the difference between self-reported COI and the data available on Open Payments. Future refinements to the clarity of the definition of a COI may be useful in the future to encompass financial relationships that may be tangentially related to the publication on hand. This may aid in helping physicians identify the interplay of their financial relationships and their research. In addition, some of the payments included on Open Payments include contributions

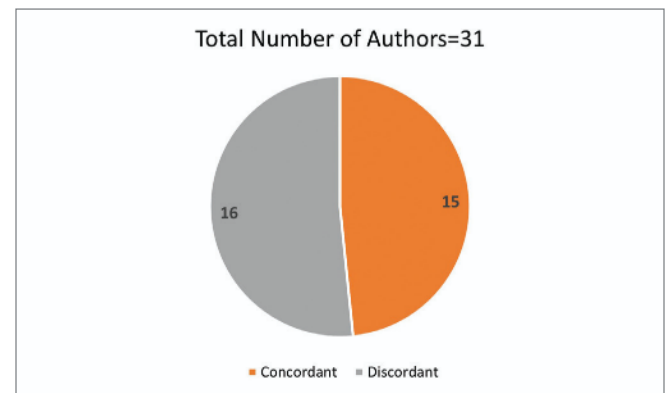


Figure 1. Concordant vs. discordant authors publishing in the *Annals of Surgery*. There were 31 authors with compensation greater than \$50,000. Of those, 15 were concordant with the COI requirements of the journal while 16 were discordant.

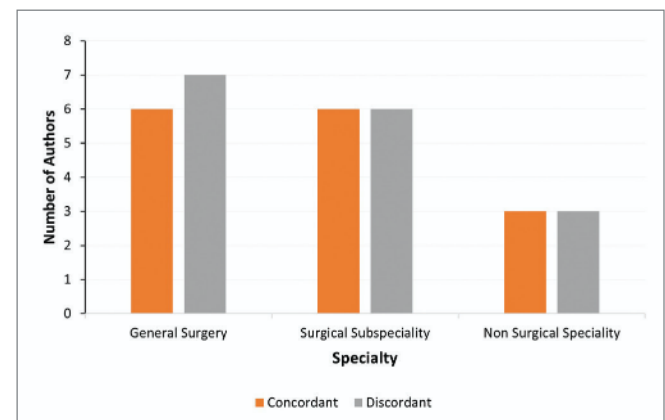


Figure 2. Concordant vs. discordant authors publishing in the *Annals of Surgery* by Specialty. There was no statistically significant difference between rates of discordance between general surgery and other surgical subspecialty (p = 1), general surgery and nonsurgical specialty (p = .516), or other surgical subspecialty and nonsurgical specialty (p = 1) after a Fisher Exact test.

that could be seen as lower-value relationships like food, traveling, and lodging, which may be perceived as something that could not lead to research bias (7).

Industry investment plays a crucial role in advancing medical research by providing essential resources, expertise, and funding. However, it is equally essential to recognize the potential influence of financial ties on research outcomes. Clear disclosure mechanisms enable stakeholders to assess the validity and potential biases associated with research findings, leading to a more comprehensive understanding of the benefits and risks of medical interventions. Standardization of COI statements can help alleviate some of the confusion surrounding COI disclosure. Medical journals can continue to take steps to increase the strength of their disclosure requirements, including establishing precise disclosure guidelines, verifying disclosure statements, and streamlining the process among various journals and professional societies.

Conclusion

We believe robust disclosure policies can ensure transparency, maintain scientific integrity, and uphold the trust of readership and the wider medical community. Although our study included an only moderately sized sample (N = 374), future studies should work to expand the scope to include authors in other high impact surgical journals, such as *JAMA Surgery*. Investigating if the lack of COI statements lead to pro-industry results in surgical journals is an important next step. Lastly, standardized disclosure policies may be an important tool to increase the rates of COI disclosure, and research surrounding the reception and demand of such a concept may lead to important breakthroughs in the future.

Acknowledgments

Thanks to the Biomedical Research Club for their support.

Disclosures

BJP's osteoarthritis research was supported from 2019 to 2021 by Pfizer and Eli Lilly. Current research is supported by the Health Resources Services Administration and the Pennsylvania Academic Clinical Research Center. The other authors report no relevant disclosures.

References

1. Relman AS. Dealing with conflicts of interest. *N Engl J Med*. 1984 May 3;310(18):1182-3.
2. International Committee of Medical Journal Editors. Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals: author responsibilities—conflicts of interest. Updated May 2023. Accessed July 20, 2023. Available from: <http://www.icmje.org/recommendations>
3. Patel SV, Yu D, Elsolh B, Goldacre BM, Nash GM. Assessment of conflicts of interest in robotic surgical studies: Validating author's declarations with the Open Payments database. *Ann Surg*. 2018;268(1):86-92. doi:10.1097/SLA.0000000000002420.
4. Probst P, Hüttner FJ, Klaiber U, Diener MK, Büchler MW, Knebel P. Thirty years of disclosure of conflict of interest in surgery journals. *Surgery*. 2015;157(4):627-633.
5. Moon T, Bahadur A, Aalberg J, Jonczyk M, Chen L, Margenthaler JA, et al. Assessment of conflicts of interest in the transcarotid artery revascularization literature. *J Surg Res*. 2023 Jun 28;291:133-138.
6. Karamchandani MM, Tian T, Hall R, Nickel I, Aalberg J, Lassaletta AD, et al. Discrepancies in financial conflicts of interest in robotic cardiothoracic surgery studies. *Ann Thorac Surg*. 2023; S0003-4975(23)00573-8.
7. Tisherman RT, Wawrose RA, Chen J, Donaldson WF, Lee JY, Shaw JD. Undisclosed conflict of interest is prevalent in spine literature. *Spine (Phila Pa 1976)*. 2020 Nov 1;45(21):1524-9.
8. Al-Khouja F, Nyam A, Sheehan B, Sullivan B, Kabutey NK, Stamos MJ, Pigazzi A, Jafari MD. Conflict of interest disclosure among the highest earning physicians receiving compensation from vascular device companies. *Am Surg*. 2022 Oct;88(10):2538-2543.
9. CMS Open Payments. Updated June 30, 2023. Accessed July 20, 2023. Available from: <https://www.cms.gov/openpayments>
10. Chen S, Roberts AL, Zhao K, Burke AC, Ritter JE, Musto KM, Piper BJ. Conflict of interest disclosure accuracy among physician authors of cancer research journals. *Scholarly Research in Progress*. 2021 Nov 5;89-91.