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Indocyanine Green and Near-infrared Guided Surgery Publications: an Analysis of Conflict of Interest Statements and Industry General Payments

Paul J Nguyen-Lee MD, Brianna L Foley BS, Collin E Dougherty BS, Tiffany N Tanner MD, FACS, FASMBS, Ivy N Haskins MD, DABOM, FACS, FASMBS, Juan A Santamaria-Barria MD, FACS
Department of Surgery, University of Nebraska Medical Center, Omaha, NE 68198

Introduction

The use of indocyanine green and near-infrared (ICG-NIR) guidance in surgery is expanding. Cash or in-kind general non-research payments can be made by medical device companies to promote their technology, including ICG-NIR, which can result in potential conflicts of interest (COIs) and bias. We hypothesized that there would be underreporting of ICG-NIR COIs in surgical literature.

Methods

- **Literature search**: ICG-NIR related articles in the top 100 highest impact surgery journals
  - Criteria: years 2018-2023; articles must have at least one U.S. author and were in English.
- **U.S. Centers for Medicare & Medicaid Services Open Payments Database**
  - Searched for authors and looked for industry general payments related to ICG-NIR products in the preceding two years from publication
  - Analyzed amount, product, company, and nature of payments, and the article COIs statements

Results

240 articles related to ICG-NIR Technology

- 47% discordant; 53% concordant COI reporting rates (Fig. 2a)
- 158 articles stated no COIs
  - 43% had underreported COIs
- 82 articles stated potential COIs
  - 53% had underreported COIs

Payments

- $8,089,060 in ICG-NIR related non-research industry general payments, with top 3 companies making payments in Fig. 1
  - $2,567,825 were underreported with inaccurate COI statements
- Categories (Fig. 2b)
  - Consulting (38%), Education (21%), Travel and Lodging (17%), Speaker Compensation (9%), Other (15%)

Figure 1

Disclosed vs Undisclosed Payment Totals (Top 3 Companies)



Figure 2a

Concordant vs Discordant Papers

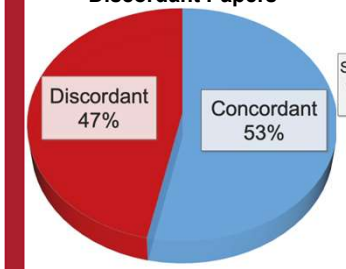
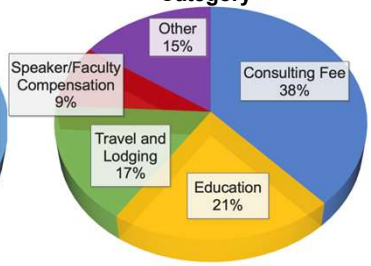


Figure 2b

Undisclosed Payments by Category



Conclusions

Between 2018-2023, ICG-NIR related publications underreported industry related COIs disclosures and general payments. Industry-surgeon collaborations are essential for the advancement of surgery, but standardized measures to accurately disclose potential COIs are needed to reduce bias in high impact surgery journals.

Disclosures

The authors have no financial disclosures or conflicts of interest to report related to this study. For other non-related financial disclosures, these can be found in the Open Payments database at https://openpaymentsdata.cms.gov/