Incentive

A thing that motivates or encourages someone to do something.

Financial incentives and conflicts of interest may influence physician decision-making. It is important to understand financial interactions between the pharmaceutical and medical device industries and newly independent physicians who have recently completed their graduate medical education using a national transparency program.

Objective: To identify trends in industry payments to recent graduates of the Accreditation Council for Graduate Medical Education-accredited residency or fellowship programs in orthopedic surgery, neurosurgery, and internal medicine.

Design, setting, and participants: This retrospective cohort study analyzed Open Payments reports of industry payments made between July 1, 2015, and June 30, 2021, to newly independent physicians from residency or fellowship programs in neurosurgery, orthopedic surgery, and internal medicine who graduated between January 1, 2015, and December 31, 2019.

Exposures: Specialties (neurosurgery and orthopedic surgery, with internal medicine as a comparison group).

Main outcomes and measures: Industry payments to newly independent physicians, including any general payments (noninvestment or nonresearch) and at least $5000 of general payments in aggregate value per year, which are considered significant financial conflicts of interest. The percentage of newly independent physicians accepting general payments during the first 6 years after graduation was analyzed by specialty and sex using cumulative incidence curves and hazard ratios (HRs) in univariable and multivariable analyses.

Results: There were 45 745 recent graduates (28 137 men [62%]; median age at graduation, 33.0 [IQR, 31.0-35.0 years]) in neurosurgery (n = 595), orthopedic surgery (n = 3481), and internal medicine (n = 41 669). In the first 2 years of independent practice, 95% (n = 3297), 92% (n = 546), and 59% (n = 24 522) of newly independent physicians in orthopedic surgery, neurosurgery, and internal medicine, respectively, accepted any general payments. A higher percentage of the newly independent physicians in orthopedic surgery and neurosurgery accepted any general payments (orthopedic surgery vs internal medicine: HR, 5.36 [95% CI, 4.42-6.51] for women and 7.01 [95% CI, 6.35-7.73] for men; neurosurgery vs internal medicine: HR, 3.25 [95% CI, 2.24-4.72] for women and 4.08 [95% CI, 3.37-4.94] for men; P = .03). A higher percentage of male physicians compared with female physicians accepted any general payments (orthopedic surgery, 2884 of 3026 [95%] vs 413 of 455 [91%]; P < .001; neurosurgery, 466 of 502 [93%] vs 80 of 93 [86%]; P = .01; and internal medicine, 15 462 of 24 609 [63%] vs 9043 of 17 034 [53%]; P < .001) and at least $5000 of general payments (orthopedic surgery, 763 of 3026 [25%] vs 71 of 455 [16%]; P < .001; neurosurgery, 87 of 502 [17%] vs 5 of 93 [5%%]; P < .001; and internal medicine, 882 of 24 609 [4%] vs 210 of 17 034 [1%]; P < .001).

Conclusions and Relevance: In this cohort study of newly independent physicians in orthopedic surgery, neurosurgery, and internal medicine, the financial relationship with potential conflicts of interest between newly independent physicians and industry began to develop soon after training programs and continued to expand in the early years of newly independent physician practice. Newly

independent physicians in surgical specialties and male physicians accepted significantly higher industry payments. Further studies are needed to evaluate whether modifiable factors are associated with the future outcome of newly independent physicians accepting general payments [1].

Developmental incentives are fundamental to surgical progress, yet financial and professional incentives inherently create conflicts of interest (COI). Understanding how to manage COI held by neurosurgeons, industry, hospitals, and journal editors, without thwarting progress and innovation is critical.

To present an overview of COI associated with innovation in neurosurgery, and review ways to manage these in an ethically sound manner.

A review of the literature was performed to assess conflicts of interest that affect neurosurgical innovation, and review ways to manage COI of various parties while adhering to ethical standards.

COI are inherent to collaboration and innovation, and are therefore an unavoidable component of neurosurgery. The lack of a clear distinction between clinical practice and innovation, ability to use devices off-label, and unstandardized disclosure requirements create inconsistencies in the way that conflicts of interest are handled. Additionally, lack of requirements to compare innovation to the standard of care and inherent bias that affects study design and interpretation can have profound effects on the medical literature. Conflicts of interest can have both direct and downstream effects on neurosurgical practice, and it is possible to manage them while improving the quality of research and innovation.

Conflicts of interest are inherent to surgical innovation, and can be handled in an ethically sound manner. Neurosurgeons, device companies, hospitals, and medical journals can take steps to proactively confront bias and ensure patient autonomy and safety. These steps can preserve public trust and ultimately improve evidence-based neurosurgical practice [2].

1)
Han M, Hogan SO, Holmboe E, Jing Y, Yamazaki K, Trock BJ. Trends in Industry Payments to Physicians in the First 6 Years After Graduate Medical Training. JAMA Netw Open. 2022 Oct 3;5(10):e2237574. doi: 10.1001/jamanetworkopen.2022.37574. PMID: 36260332.
2)
DiRisio AC, Muskens IS, Cote DJ, Babu M, Gormley WB, Smith TR, Moojen WA, Broekman ML. Oversight and Ethical Regulation of Conflicts of Interest in Neurosurgery in the United States. Neurosurgery. 2019 Feb 1;84(2):305-312. doi: 10.1093/neuros/nyy227. PubMed PMID: 29850841.