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Accuracy of Disclosed Financial Relationships between Radiologists and Industry at the 2018 RSNA Annual Meeting

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Conflicts of interest are listed at the end of this article.

See also the editorial by Grant in this issue.

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Financial relationships with industry influence physicians in numerous ways, from prescribing patterns (1) to interpretation and publication of scientific findings (2). To increase transparency, in 2010 Congress passed the Sunshine Act, which requires medical device and pharmaceutical companies to report value transfers to physicians. Since 2014, these data have been published annually by the Centers for Medicare & Medicaid Services in the publicly accessible Open Payments Database (OPD).

Studies across various medical specialties have shown underreporting of financial conflicts of interest. Although industry payments to radiologists are substantial, totaling over \$59 million in 2014, the accuracy of self-reported financial disclosures among radiologists, to our knowledge, has not been investigated (3). This study assesses the accuracy of financial self-disclosures from radiologists at the 2018 RSNA Annual Meeting by comparing them with OPD records.

Materials and Methods

This retrospective study was performed with public data and was not subject to institutional review board approval. Targets of the research were U.S. physicians presenting in and/or moderating 2018 RSNA Annual Meeting science sessions. Self-reported financial disclosures from the RSNA digital program were cross-referenced against OPD payments from 12 months preceding the abstract submission deadline in accordance with the RSNA disclosure policy. Payments less than \$200 (a threshold comparable with that of similar studies [4,5]) and payments to trainees, who are exempt from OPD reporting, were excluded. To determine if certain factors affected the likelihood of self-reporting, disclosure rates were compared according to payment type, payment form, nature of payment, and payment amount.

Fisher exact, Pearson χ^2 , and Kruskal-Wallis rank tests were used to compare disclosure rates. Statistical analyses were performed by using Stata (version 16.1; StataCorp).

Results

Of 1521 science session presenters and moderators, 544 were U.S. physicians. Among those 544 physicians, 310 were listed in the OPD (Fig E1 [online]). Industry payments were received by 198 of these 310 physicians (64%). Among those receiving payments, 93 (47%) did not disclose at least one industry payment greater than \$200, with a median undisclosed payment amount per physician of \$6516 (range, \$219–\$376 634) (Figure).

There were 2174 industry payments totaling \$8 502 082 to these 198 physicians, and \$2 388 164 (28.1%) was not self-disclosed. The majority (1307 of 2174 payments, 60.1%) were cash or cash equivalent compared with in-kind (ie, noncash) items and services. Cash payments were more likely to be self-reported ($P < .001$) (Fig E2 [online]). Although 2025 of 2174 (93.1%) payments were not related to research, research payments accounted for \$5 450 653 of \$8 502 082 (64.1%) of total industry funding and were more likely to be disclosed by physicians ($P = .011$) (Fig E3 [online]). Larger payments were also more likely to be disclosed ($P < .001$) (Fig E4 [online]). Disclosure rates differed across radiologic subspecialties ($P < .001$) (Table), with musculoskeletal radiologists having the highest disclosure rate (243 of 291 payments, 83.5%).

Discussion

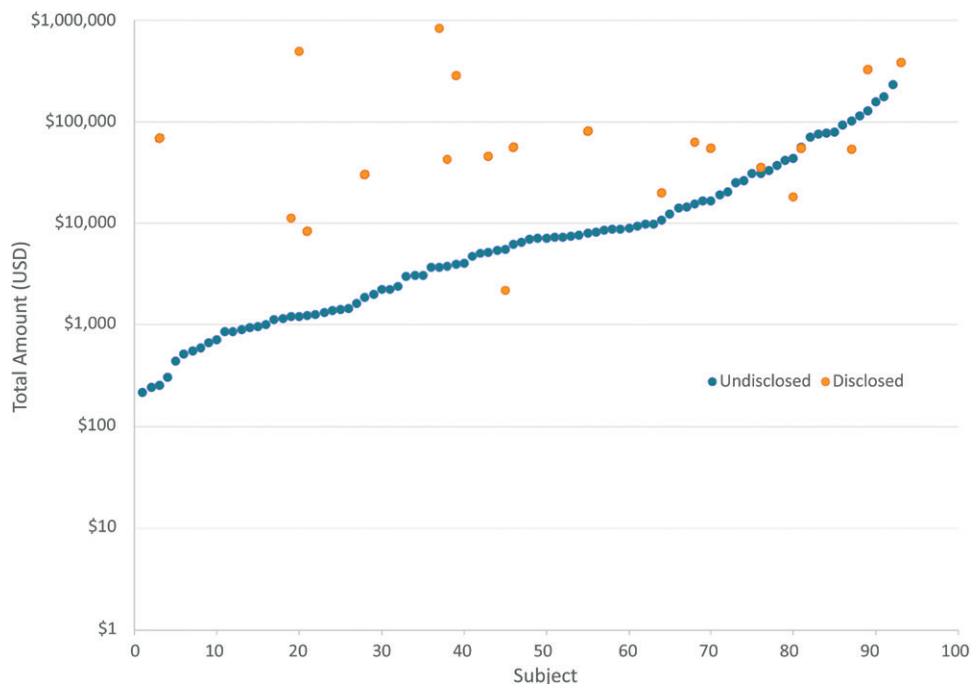
In this study, 47% of radiologists who received industry payments did not disclose at least one industry payment of more than \$200. RSNA's disclosure policy is ambiguous, both defining conflict of interest as "financial relationships...that create a conflict of interest" and requesting disclosure of all relationships with proprietary health care entities. As a result, some physicians may not have disclosed payments deemed unrelated to the subject matter of their presentation, a commonly cited reason for nondisclosure (6). This study is limited by the fact that relevant Open Pay-

ments Database (OPD) payments made outside the 12 months before the annual meeting would have been missed, as would nonmonetary relationships, which are not recorded in the OPD, both likely attenuating the observed nondisclosure rates. These findings indicate that further efforts are warranted to clarify disclosure policies and to improve understanding and adherence by radiologists.

Author contributions: Guarantors of integrity of entire study, E.J.S., R.P.L.; study concepts/study design or data acquisition or data analysis/interpretation, all authors; manuscript drafting or manuscript revision for important intellectual content, all authors; approval of final version of submitted manuscript, all

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Plot shows total amount of undisclosed and disclosed industry payments by physicians who did not disclose at least one payment of more than \$200 ($n = 93$) per the Open Payments Database. Median undisclosed payment amount per author was \$6516 (range, \$219–\$376634). A total of 76 of 93 physicians (82%) received more than \$1000 in undisclosed payments. USD = U.S. dollar.

Disclosure Rates and Total Undisclosed Payment Amount according to Radiologic Subspecialty

Subspecialty	No. of Physicians with OPD Payments	No. of Disclosed Payments*	Total Undisclosed Amount (USD)
Musculoskeletal	12	243/291 (83.5)	110 792
Neuroradiology	20	214/327 (65.4)	225 424
Chest/cardiothoracic	30	212/411 (51.6)	354 995
Breast	28	100/199 (50.3)	85 753
Nuclear/molecular	15	41/144 (28.5)	117 543
Emergency	5	10/43 (23.3)	37 891
Interventional	15	50/233 (21.5)	245 702
Abdominal	48	57/441 (12.9)	1 100 000
Radiation oncology	11	1/41 (2.4)	7288
Pediatrics	4	0/24 (0.0)	92 775

Note.—Ten physicians from subspecialties unrecognized by the American Board of Medical Specialties were excluded from this analysis. These specialties include informatics ($n = 7$), medical physics ($n = 1$), and nonradiologic specialties ($n = 2$). OPD = Open Payments Database, USD = U.S. dollar.

* Data are numbers of disclosed payments of total payments greater than \$200 per the OPD, with percentages in parentheses.

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