HEALTH CARE REFORM

The Impact of Disclosing Financial Ties in Research and Clinical Care

A Systematic Review

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Background: Despite increased demand for disclosure of physician and researcher financial ties (FTs) to industry, little is known about patients’, research participants’, or journal readers’ attitudes toward FTs.

Methods: We systematically reviewed original, quantitative studies of patients’, research participants’, or journal readers’ views about FTs to pharmaceutical and medical device companies. The MEDLINE, Scopus, and Web of Knowledge databases were searched for English-language studies containing original, quantitative data on attitudes toward FTs. We screened 6561 citations and retrieved 244 potentially eligible abstracts. Of these, 20 met inclusion criteria.

Results: Eleven studies assessed FTs and perceptions of quality. In clinical care, patients believed FTs decreased the quality and increased the cost of care. In research, FTs affected perceptions of study quality. In 2 studies, readers’ perceptions of journal article quality decreased after disclosure of FTs. Eight studies assessed the acceptability of FTs. Patients were more likely to view personal gifts to physicians as unacceptable, compared with professional gifts. In 6 of the 10 studies that assessed the importance of disclosure, most patients and research participants believed FTs should be disclosed; in the other 4, approximately one-quarter believed FTs should be disclosed. Among the 7 studies assessing willingness to participate in research, approximately one-quarter of participants reported less willingness after disclosure of FTs.

Conclusions: Patients believe that FTs influence professional behavior and should be disclosed. Patients, physicians, and research participants believe FTs decrease the quality of research evidence, and, for some, knowledge of FTs would affect willingness to participate in research.

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Financial ties (FTs) to the pharmaceutical, biotechnology, and medical device industries are common in clinical medicine and biomedical research.1 In clinical care, FTs affect how physicians prescribe drugs and use devices, and may otherwise influence professional behavior.2,3 In research, FTs have been associated with biased analysis and presentation of data, restrictions on publication, and reduced sharing of data.4,7 As a result, FTs have recently received substantial attention from the media and policymakers.3,8-10

Full disclosure of FTs, either by physicians or companies, has emerged as a primary management strategy. The intended recipients of these disclosures include academic institutions, colleagues, patients, research participants, and the public. Proponents argue that disclosure enables patients and research participants to make informed decisions regarding their care and that it may discourage FTs between medicine and industry.11-13 Critics contend that disclosure is only a partial solution: it does nothing to uphold scientific integrity and may not be fully appreciated by its recipients who may be overwhelmed with information in consent documents and unable to assess the implications of FTs.14-17

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Although controversial, public disclosure of FTs has been recommended by medical associations and policymakers. Early recommendations have been aimed primarily at academic physicians and researchers. The Association of American Medical Colleges, the World Medical Association (in the Declaration of Helsinki), and the American Medical Association specifically recommend institutional, physician, and researcher disclosure of industry relationships to patients and research participants.12,13,18-20 Similar policies exist in medical publishing.21,22 In 2008,
Nearly 90% of biomedical journals had a conflict of interest policy, largely centered on author disclosure.23 One form of disclosure that has gained momentum is public reporting, largely through online databases. In July 2009, new laws requiring pharmaceutical companies to disclose all direct payments to physicians took effect in Massachusetts and Vermont, the latter representing the strictest state regulation in the nation.24 In all, 8 states have passed similar laws, with at least 20 others proposing related legislation.25,26 The Physician Payments Sunshine Act of 2009, recently introduced in the US Senate, would mandate reporting of many of the payments physicians receive from private companies.27 A 2009 report from the Institute of Medicine recommends a similar system.28

In response to these proscriptions, academic medical centers and private companies have begun implementing policies to allow for greater transparency in their relationships. During the past 2 years, a number of academic medical centers have begun publishing online databases that include the FTs of all physicians in their health system.29-31 In addition, pharmaceutical companies such as Merck and Eli Lilly have recently made public their lists of physicians who receive company money for speaking or consulting.32

Despite the momentum toward increased disclosure through public reporting, the likely effect on decision-making is unclear. Two systematic reviews have looked at attitudes toward FTs, one from the point of view of physicians and another from the perspective of researchers.33,34 These reviews report that financial relationships affect professional behavior and that researchers are concerned about FTs and favor upfront disclosure. Our work builds on this literature by presenting data collected from disclosure recipients rather than “disclosers.” An understanding of these unique attitudes and effects is essential to the development of evidence-based policies and practices regarding disclosure of FTs. We systematically reviewed the evidence on the perspectives of patients, research participants, and users of published medical literature to answer 4 questions: (1) What impact does disclosure have on recipients’ perceptions of the quality of biomedical research and clinical care? (2) How does the acceptability of FTs differ by type of relationship or payment? (3) What types of FTs are most important to disclose? (4) Does disclosure of FTs affect willingness to participate in research?

**STUDY SELECTION**

A study was included if it met the following criteria: (1) stated purpose was to assess the attitudes and beliefs of disclosure recipients toward FTs (defined as any payments made or gifts given to a physician or researcher by a pharmaceutical, biotechnology, or medical device company, including those directly funding research studies) or the effect of disclosure of FTs on recipients’ beliefs or behaviors; (2) contained a section describing methods; (3) published after 1987; (4) written in English; and (5) research article that presented original, quantitative data. Two of us (E.B. and A.L.) reviewed 6361 citations identified from MEDLINE (n=1996), Scopus (n=1644), and Web of Knowledge (n=2921). Of these, 214 studies (3.3%) were identified as potentially eligible. An additional 30 studies were identified by using Web of Knowledge to review the citations and references of the original 214 studies. The abstracts of these 244 studies were reviewed by 2 of us (C.G. and A.L.); of these, 20 studies (8.2%) met inclusion criteria (Figure).

**DATA EXTRACTION**

Two investigators (A.L. and E.B.) extracted study characteristics, including type of study, eligibility criteria, study population, sample size (and response rate when appropriate), type of FT described or disclosed, and the manner in which the FT was disclosed or described to participants. We

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**METHODS**

**DATA SOURCES**

Data sources included articles presenting original, quantitative data addressing attitudes toward physician and researcher FTs, attitudes toward the disclosure of such information, or the effect of disclosure on recipients’ beliefs or behaviors. We searched MEDLINE for articles published from January 1, 1988, to September 30, 2009, that included specific Medical Subject Heading terms and free-text terms developed to represent the 4 concepts of our review: conflicts of interest and FTs, disclosers (eg, physicians and researchers), disclosure recipients (eg, patients, research participants, and journal readers), and disclosure effects (eg, patient attitudes and perceptions; for a complete list of search terms, see eTable 1, available at http://www.archinternmed.com). We searched the Web of Knowledge and Scopus databases using a similar strategy. These searches were supplemented by using Web of Knowledge to identify all references and citations of those articles identified in the primary searches previously described.

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Figure. Study selection.
extracted data concerning the percentage of participants who found each FT unacceptable and the distribution of responses regarding importance of disclosure and willingness to participate after disclosure, as well as any other reported effects of disclosure (eg, perceived quality of research). These outcomes were specified before data extraction. When response distributions were not reported, we requested them from the study’s authors.

SYNTHESIS OF EVIDENCE

Data were synthesized qualitatively, owing to the heterogeneity of the included studies. Studies were grouped according to domain. The FTs were considered by nature of recipient (ie, physician, researcher, or institution) and type of FT (eg, equity ownership, consulting fee, or royalty payment). We display the percentage of respondents who believe FTs decrease the quality of clinical care or research evidence, are unacceptable, and are important to disclose. We also report the percentage of respondents who would be less willing to participate in research after receiving a disclosure. Methodological quality was evaluated according to the method of Glaser and Bero. Articles that received a score of 3 or more were considered to be of moderate quality (Table 2).

RESULTS

Table 1. Impact of Disclosure on Perceptions of Quality on CARE AND RESEARCH

Eleven studies (10 were of moderate quality or higher) examined the impact of FTs on recipient assessments of quality. Overall, many patients believed that FTs decrease the quality of care and affect prescribing behavior and that disclosure of FTs may decrease the perceived quality of published evidence.

Six studies considered patient perceptions of quality and cost in clinical care. In one 1995 survey, 70% of patients believed that any FT decreases the quality of care, whereas another reported that 26% of patients believed personal gifts decrease the quality of care (vs 13% who believed professional gifts decrease quality). Four other surveys, including 2 recent surveys from 2009 of 1800 total patients, report that 27% to 56% of patients believed physician gifts affect prescription patterns (48%-56% for large personal gifts vs 27%-42% for small gifts or gifts of any nature). In those studies considering patient perceptions of cost, 26% to 67% believed that gifts to physicians increase the cost of care; in one study, 42% of patients believed that personal gifts increase the cost of care (vs 26% who believed that professional gifts increase the cost of care).

Five studies addressed the impact of FT disclosure in research. In 3 randomized trials, respondents rated articles whose disclosure statement had different types of FTs. In 2 studies, respondents in the financial statement group rated the article as less interesting, important, relevant, valid, and believable compared with respondents in the no financial statement group. In the third trial, no significant difference was reported in the perceived validity of the article, but the authors were rated as significantly less trustworthy when the article included a disclosure. Conversely, participants reported increased willingness to follow the article’s recommendations—adhering to a diet with a low glycemic index—after reading the article disclosing FTs.

In a 2008 survey, patients reached through an Internet database perceived the greatest reduction in sci...
 centific quality when researcher equity ownership was disclosed.41 Finally, a 2007 survey of 201 internal medicine physicians reported that most respondents (>70%) believed committee member involvement in industry-sponsored research, or compensation for speaking and consulting, introduced a high level of bias into clinical practice guidelines.40

**ACCEPTABILITY OF FTs**

Five studies (3 were of moderate quality or higher) addressed patients’ attitudes toward physicians’ FTs.34,36-38,45 (Table 2). These studies suggest that patients find gifts to physicians to be less acceptable when the gifts are large and when they are of a personal, rather than professional, nature.

For instance, in a 2009 study of 903 patients contacted by telephone, 9% disapproved of physicians receiving free drug samples and 16% disapproved of free medical texts compared with disapproval rates of 55% and 68%, respectively, for paid dinners and golf tournaments.38 One 1995 survey considered the appropriateness of FTs by dollar amount: 9% of patients believed professional gifts should be limited to less than $25 per year, whereas 32% believed that personal gifts should be limited to less than $25 per year ($P < .001).35

Three studies (all were of moderate quality or higher) considered patients’ views of the acceptability of FTs in research.46-48 A 1995 survey of 200 general medical patients in an outpatient clinic reported that 56% found a per capita fee for enrolling patients to be unacceptable (compared with 64% of physicians; $P < .005).47 The remaining 2 studies examined concern about researcher FTs from the point of view of research participants currently involved in cancer trials.46,48 A 2006 survey of cancer trial participants found that researcher equity ownership was most often judged unacceptable (27% of patients), followed by patent royalties (23%) and speaking and consulting (13% each). In the same study, when asked about institutional FTs, 34% of respondents believed equity ownership should be prohibited, whereas fewer thought per capita payments (17%) and patent royalties (21%) should be prohibited.48 Gray et al48 reported that 44% of participants “should be concerned” by researcher FTs when presented with a dichotomous choice, whereas Hampson et al48 reported that 7% of participants were “worried” by researcher FTs when presented with a 4-point scale (“very worried” to “not worried at all”).

**IMPORTANCE OF DISCLOSURE**

Ten studies (all were of moderate quality or higher) addressed the importance of disclosing FTs to patients and research participants (Table 3). Overall, patients and research participants expressed a desire for disclosure of FTs, with more interest and concern among younger and more educated patients.38,39,46-50 Three studies addressed the importance of disclosing FTs to patients in clinical care.38,39,45 One, a 2009 study of more than 900 patients in general medical offices, reported that 84% of patients wanted their physician to disclose any relevant FTs to them and most strongly preferred that this disclosure be made verbally during the patient encounter rather than displayed in the office or presented in a written document. Moreover, approximately 80% of patients in this study believed that this disclosure would lead to increased confidence in their physi-

### Table 2. Patients’ and Research Participants’ Views About the Acceptability of FTs

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample (Response Rate, %)</th>
<th>Type of FT (% of Participants Who Believe Industry FTs Are Unacceptable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FTs in Clinical Care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional Gifts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personal Gifts</td>
</tr>
<tr>
<td>Blake and Early,34 1995</td>
<td>486 Patients from primary care clinics (83%)</td>
<td>Drug samples (7.6%); texts (16.9%); conference expenses (32.5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ice cream social (28%); golf tournament (41.6%); dinner (48.4%)</td>
</tr>
<tr>
<td>Gibbons et al,36 1998</td>
<td>196 Patients from primary care clinics (96%)</td>
<td>Texts (18%); drug samples (22%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lunch (23%); dinner (47%); trip (59%)</td>
</tr>
<tr>
<td>Semin et al,37 2006</td>
<td>584 Patients from primary care clinics (NR)</td>
<td>(10%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(9.4%)</td>
</tr>
<tr>
<td>Khan et al,38 2007</td>
<td>245 Patients from a spine clinic waiting room (NR)</td>
<td>Drug samples (9%); pens (16.2%); texts (19.3%); conference expenses (54.5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dinner (55%); with spouse, 59.1%; golf tournament (68.2%)</td>
</tr>
<tr>
<td>Justifer and Roberts,39 2009</td>
<td>903 Patients reached by phone (10.1%)</td>
<td>Drug samples (9%); pens (16.2%); texts (19.3%); conference expenses (54.5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dinner (55%); with spouse, 59.1%; golf tournament (68.2%)</td>
</tr>
</tbody>
</table>

**FTs in Research**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample (Response Rate, %)</th>
<th>Any researcher FTc (concerned, 44%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray et al,36 2007</td>
<td>102 Research participants in cancer trials (86%)</td>
<td></td>
</tr>
<tr>
<td>La Puma et al,37 1995</td>
<td>200 Patients from general medicine offices (74%)</td>
<td>Per capita fee (56%)</td>
</tr>
<tr>
<td>Hampson et al,38 2006</td>
<td>253 Research participants in cancer trials (93%)</td>
<td>Stock (27%); patent royalties (23%); consulting (13%); speaker honoraria (13%); any researcher FT (somewhat or very concerned, 7%)</td>
</tr>
</tbody>
</table>

**Abbreviations:** FTs, financial ties; NR, not reported.

A total of 10% found drug samples to be inappropriate, whereas 71% of patients found “any” gifts to physicians to be inappropriate.

A total of 9.4% of patients thought surgeons should not be allowed to act as paid consultants to medical device companies.

In this study, an FT was described either as a “financial conflict of interest,” that the principal investigator “might benefit financially from the study,” or a list of common FTs presented to patients (“eg, stock ownership, paid consulting, etc.”).
cian’s decisions and would help patients make better decisions about their care.39

Seven articles examined the importance of researcher disclosure of FTs from the point of view of current or potential research participants.46-52 Three studies reported that researcher equity ownership was the most important FT to disclose, although the range was wide (28%-47%).49,51,52 In 2 other studies, most participants (57%-92%) believed that disclosure of any industry funding was most important.7,50 Among current research participants, 31% to 52% believed that any industry funding should be disclosed.46,48

IMPACT OF DISCLOSURE ON WILLINGNESS TO PARTICIPATE IN CARE AND RESEARCH

No studies assessed the impact of physician FT disclosure on patients’ willingness to receive clinical care. Seven articles (of moderate quality or higher) addressed the impact of researcher FT disclosure on willingness to participate in research46-48,49,51-54 (Table 4). For some research participants, disclosure of FTs affects willingness to participate.

Three studies reported that prospective research participants were least willing to participate in a hypothetical clinical trial when researcher equity ownership was disclosed.45,51,52 Of note, participants also reported less trust in researchers after disclosure of FTs. Nevertheless, disclosure of other details about the hypothetical clinical trial (eg, risks and benefits) had more effect on willingness to participate than did disclosure of FTs.51,52 A 2006 survey of 253 current research participants reported that participants were least willing to participate after disclosure of researcher royalty payments (14% unwilling). When institutional FTs were considered, respondents were least willing to participate after a disclosure of equity ownership.48 Comparisons among these 4 studies in terms of willingness to participate are difficult because the patient populations ranged from outpatients with chronic diseases to patients with cancer enrolled in clinical trials.48,49,51,52 Disclosure of FTs appeared to have the least effect on current research participants compared with its effect on respondents who were not currently enrolled in research. Finally, a 2007 study compared the response rates of a survey that disclosed industry funding to that of an identical survey without a disclosure.54 There was no significant difference between response rates in the 2 groups (76% vs 70%; P = .29).

### Table 3. Patients’ and Research Participants’ Views About the Importance of Disclosing FTs

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample (Response Rate, %)</th>
<th>Type of FT (% of Participants Who Believe It Is Important to Disclose Industry Financial Ties)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khan et al,46 2007</td>
<td>245 Patients from a spine clinic waiting room (NR)</td>
<td>Consulting (72.7%)</td>
</tr>
<tr>
<td>Juster and Roberts,46 2009</td>
<td>903 Patients reached by phone (10.1%)</td>
<td>Any FT (26.9%)</td>
</tr>
<tr>
<td>Tattersall et al,36 2009</td>
<td>906 Patients from general medicine offices (80%)</td>
<td>Any FT (84%); per capita fee (79%); payment for prescribing a drug or ordering a test (77%-81%)</td>
</tr>
</tbody>
</table>

Abbreviations: FTs, financial ties; NR, not reported.

4A total of 32% responded to the first contact; of those, 86% were included.

5A total of 2840 letters were sent to patients, of whom 1545 received phone calls, 510 completed the survey, 40 were enrolled in a pilot study, and 470 were enrolled in the final study.

In a 2006 study, an FT was described either as a “financial conflict of interest,” that the principal investigator “might benefit financially from the study,” or as a list of common FTs presented to patients (“eg, stock ownership, paid consulting, etc.”).
Although many disclosure recipients want to know about FTs, fewer believed that disclosure would affect their decision-making. Most research participants were not concerned about physician FTs with industry, with as few as 7% reporting concern in one study.46,46 Perhaps consistent with this lack of concern, no more than one-third of patients in any of the included studies reported reduced willingness to participate in research when FTs were disclosed. In addition, some studies showed no statistically significant difference in willingness to participate, or actual participation, between groups that received disclosure and those that did not.53,54 In clinical settings, the impact of disclosure on patient decision-making was less clear: only 1 survey assessed whether information related to FTs would help patients make more informed decisions about their treatment options.39 This absence in the literature is notable given the substantial legislative efforts directed at disclosing physician FTs. In studies that assessed patient disease severity, there were no notable significant associations between disease severity or self-reported health status and attitudes toward FTs or the impact of disclosure.34,46,48-50 These attitudes and effects are particularly relevant today as the nation increasingly relies on disclosure as a response to financial conflicts of interest. Under the Physician Payments Sunshine Act of 2009, companies would be required to publicly report virtually any payment they made to a physician.27 Recently, the Institute of Medicine recommended a broad national reporting system that would require drug, device, and biotechnology companies to publicly report payments to physicians and other prescribers, researchers, and institutions. In a minority Institute of Medicine report, a broader model was proposed, wherein individual academic physicians and researchers would make public those FTs they disclose to their institutions.28 Such a national reporting program would greatly increase the number of “consumers” of disclosed information, including populations represented by the subjects of this review. Our findings suggest a number of recommendations that should be considered as public disclosure systems are designed and implemented.

First, this review suggests that a sizeable portion of the public wants to know about physician FTs. Roughly one-third to two-thirds of patients thought it was important to know about physician and researcher FTs, and interest was greater among younger, more educated patients.38,39,46-50 This preference is consistent with related studies that found that more than half of participants wish to know about the financial incentives imposed on physicians in health plans.55,56

Second, we find that, across multiple studies, patients and research participants are able to distinguish between different types of FTs as well as the relative importance of disclosure of each. Public reporting systems should be designed to maximize consumer understanding, with an emphasis on clear and straightforward presentation of those FTs that stakeholders care most about. The Institute of Medicine recommends that national organizations “should convene a broad-based consensus development process to establish a standard content . . . [and format] . . . for the disclosure of financial relationships with industry.”28(p92) A similar recommendation for uniform reporting in biomedical journals was recently made.37 Any public disclosure system should emphasize those FTs that consumers want disclosed, without creating an unnecessary burden for those viewing or updating these databases. These preferences may inform the order in which FTs are presented in a database, as well as the content needed to describe each relationship.

Third, information on FTs disclosed in public databases should be incorporated into researcher-participant and provider-patient discussions. When asked, patients prefer disclosure through conversations with their provider rather than written communications.29 This review suggests that most patients are still willing to participate in research after the disclosure of researcher FTs. Although some participants may have less trust in researchers who disclose certain FTs, for others, trust

### Table 4. Financial Ties and Willingness to Participate in Research

<table>
<thead>
<tr>
<th>Source</th>
<th>Sample (Response Rate, %)</th>
<th>Type of FT (% of Participants Who Report Less Willingness)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim et al,46 2004</td>
<td>5478 Patients from a chronic illness database Internet survey (32%)</td>
<td>Equity (17.6%); speaking and consulting (15.4%); patient royalties (14.2%); per capita payments (8.8%); any industry funding (2.6%)</td>
</tr>
<tr>
<td>Hampson et al,47 2006</td>
<td>253 Research participants in cancer trials (93%)</td>
<td>Patent royalties (14%); consulting (12%); equity (11%); speaking (9%)</td>
</tr>
<tr>
<td>Weinfurt et al,48 2008</td>
<td>3623 Outpatients reached by phone (NR)</td>
<td>Equity (29.6%); speaking and consulting (24.7%); any researcher FT (24.6%); per capita payments (19.7%)</td>
</tr>
<tr>
<td>Gibbs and Guagnano,53 2007</td>
<td>297 Healthy undergraduates (NR)</td>
<td>Per capita payments (44%); company employee (43%); patent royalties (36%)</td>
</tr>
<tr>
<td>Gray et al,44 2007</td>
<td>102 Research participants in cancer trials (86%)</td>
<td>Any researcher FT (14%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Randomized Studies</th>
<th>Disclosure</th>
<th>No Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weinfurt et al,51 2008</td>
<td>470 Patients from a chronic illness database Internet survey (17%)</td>
<td>Equity (33.1%); per capita payments (23.8%)</td>
</tr>
<tr>
<td>Myers et al,54 2007</td>
<td>167 Physicians and nurses (79%)</td>
<td>Any industry funding (30.4%)</td>
</tr>
</tbody>
</table>

Abbreviations: FTs, financial ties; NR, not reported.

*Willingness was assessed for all respondents after a disclosure of FTs.

In this study, an FT was described either as a “financial conflict of interest,” that the principal investigator “might benefit financially from the study,” or a list of common FTs presented to patients (“eg, stock ownership, paid consulting, etc”).

**Willingness was assessed after disclosure of FTs (disclosure group) or without any disclosure of FTs (no disclosure group).
may increase. In clinical care, when physicians disclose information about financial incentives in their managed care plans, there is evidence that trust is unaffected or may even increase. Accordingly, disclosure of FTs with industry might strengthen their relationship with their provider.

This review also highlights directions for future research. For instance, only 2 studies considered FTs in clinical care other than gifts to physicians. One study assessed the impact of disclosure on patient decision-making. Because public reporting systems will reveal nearly all physician FTs in care and research, further high-quality studies should be conducted to assess patient attitudes in each setting. None of the studies included an educational intervention to describe the nature or consequences of physician or researcher FTs to participants. As previous qualitative work has revealed great variability in a patient’s ability to understand the implications of FTs, patient attitudes may be affected by information on the risks associated with financial conflicts of interest. Finally, this review highlights general categories of FTs that consumers believe should be disclosed, although little is known about the impact of different ways of presenting that information.

This review has several limitations. First, despite an exhaustive search of the biomedical literature, we located only 20 eligible studies. This yield reflects the relative specificity of our criteria and the dearth of studies considering the recipients’ views on disclosure. Second, because of the heterogeneity of the included studies’ data collection and outcome measures, it was not possible to perform a quantitative synthesis of the data. As the included studies often posed slightly different questions to different populations, an aggregate analysis would likely misrepresent the underlying data. As further studies are conducted in a more standardized manner, quantitative analysis may soon be possible.

Disclosure of FTs in clinical care and research has become a central strategy in the management of conflicts of interest, particularly as public reporting systems are implemented. This review indicates that disclosure recipients—patients, research participants, and physicians evaluating evidence—want FTs to be disclosed and are able to discriminate between different types of ties. Nevertheless, these disclosures appear to have a limited effect on behavioral outcomes, such as willingness to participate in research. As information on physician and researcher FTs becomes more publicly available, further research is needed to explore the optimal format for widespread consumer use and the effect on patient decision-making in clinical care and research.

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