Walking the Talk of Trust in Human Subjects Research: The Challenge of Regulating Financial Conflicts of Interest

Robert Gatter

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HUMAN SUBJECTS RESEARCH AND CONFLICTS OF INTEREST

WALKING THE TALK OF TRUST IN HUMAN SUBJECTS RESEARCH: THE CHALLENGE OF REGULATING FINANCIAL CONFLICTS OF INTEREST

Robert Gatter*

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* This Article is dedicated to the memory of Professor Tom Blackwell with gratitude for the professional example he set as a teacher and colleague.

Assistant Professor of Law, Pennsylvania State University, Dickinson School of Law. I am grateful for comments on this project from Peter Alexander, Gary Gildin, Jesse Goldner, Mark Hall, Haavi Moreim, and Carla Pratt. I also thank Rebecca Finkenbinder, John Pikulski, and Richard Kocher for their research assistance.
corporate executives have sexually abused their voluntary patients and were blamed on failures by their institutions. Most recently, while participating in the Institute for Human

In 2000 and 2002, 41% of time from the world, it is difficult to put the numbers that their voluntary patients were blamed on failures by their institutions. Most recently, while participating in the Institute for Human

Concluding the study of the 5 liver enzymes, Reed 5 are categorized into three prescriptions. The Phase II trials examine the effectiveness of a new drug for treatment. Id. at 390-10. Such trials.


According to one observer, "(t)rust has indeed become the characteristic issue of postmodern society. Of the 50 books published since 1968 that the Library of Congress has identified as dealing largely with that subject, fully half have come out in the last five years." Paul Forman, Truth and Objectivity, Part 2: Trust, 269 SCI. 707, 707 (1995) (reviewing Theodore M. Porter, Trust in Numbers: The Pursuit of Objectivity in Science and Public Life (1995)). See Bruce Horovitz, Scandals Shake Public Trust, USA TODAY, July 16, 2002, at 1A (discussing the implications of the results of a poll about trust in the United States following the terrorist attacks on September 11, 2001 and the corporate and church scandals).
corporate executives. Similarly, public trust in the Catholic Church and priesthood has been devastated in the wake of reports that some U.S. priests have sexually abused parishioners, including children, and that the Church failed to protect its members from further victimization even after it learned of those abuses.

In 2000 and 2001 another betrayal of trust was making headlines—this time from the world of medical research. Several individuals died as a result of their voluntary participation as human subjects in research, and their deaths were blamed on financial conflicts of interest among researchers and research institutions. Most notable is the highly publicized death of Jesse Gelsinger while participating in a clinical trial at the University of Pennsylvania’s Institute for Human Gene Therapy. The study’s principal investigator and the

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2 See Horovitz, supra note 1 (discussing public trust in corporate executives, stockbrokers, and accountants since the Enron scandal); see also SEC Chairman: ‘The People Have Lost Confidence,’ USA TODAY, July 2, 2002, at 11A (interview); John Harwood, Reform Storm Grows: Business Scandals May Tilt Support Toward Regulation, SUNDAY PATRIOT-NEWS (Harrisburg, PA), July 28, 2002, at D1 (stating that a national poll reveals that 79% of Americans do not trust stockbrokers and corporations).

3 See Gerald L. Zelizer, Sex Scandals Rock Trust in All Religions’ Leaders, USA TODAY, Apr. 23, 2002, at A11. See also Horovitz, supra note 1 (“Even in the shadow of the Enron and WorldCom scandals, accountants, whom 51% say they trust, were still found to be more trusted than Catholic priests.”).

4 In addition to the cases described in the introduction of this Article, see Matthew Kauffman & Andrew Julian, Medical Research: Can We Trust It?, HARTFORD COURANT, Apr. 9, 2000, at A1 (first of three parts).

5 A clinical trial most commonly refers to a scientific research project that tests the safety and effectiveness of a new substance on humans, typically conducted as part of seeking approval from the Food and Drug Administration (FDA) to market the new substance. Gina Mazzariello Piae, Third Party Reimbursement for Participation in Cancer Clinical Trials: A Proposal for Legislation, 16 J. CONTEMP. HEALTH L. & POL’Y 305, 308-09 (2000). Clinical trials testing substances for the purpose of FDA approval are categorized into three phases. Id. at 309. Phase I trials test whether a substance is safe for human use. Phase II trials examine the effectiveness of the substance for treating a particular human condition; Phase III trials examine both safety and effectiveness by comparing the experimental substance against standard treatment. Id. at 309-10. See also 21 C.F.R. § 312.21 (2001) (describing each of the three phases of clinical trials).

6 The study tested a new mechanism for treating ornithine transcarbamylase (OTC), a genetic disorder of the five liver enzymes that help process proteins by removing the byproduct of ammonia from the body. See Sheryl Gay Stolberg, The Biotech Death of Jesse Gelsinger, N.Y. TIMES, Nov. 28, 1999 § 6 (Magazine), at 137. Those suffering from the disorder experience a build-up of ammonia in the blood stream, which leads to coma, brain damage, and death. Id.

The study used synthetic viruses as vectors to carry genetic material into the subject’s body. It involved “an infusion of corrective genes, encased in a dose of weakened cold virus, adenovirus, which functioned as a vector. Vectors are like taxicabs that drive healthy DNA into cells; viruses, whose sole purpose is to get inside cells and infect them, make useful vectors.” Id.

Mr. Gelsinger was eighteen years old at the time of the study, and he suffered from a relatively mild form of OTC that was managed by diet and medication. Even though the study was highly unlikely to provide any therapeutic benefit to Mr. Gelsinger, he volunteered as a subject to help in the development of a new
University held equity positions worth millions of dollars in a company that owned exclusive commercial rights to the results of the research, and these financial interests allegedly caused the researcher and the institution to take unjustifiable risks with Mr. Gelsinger's life that had not been disclosed to him.

A second highly publicized case involved studies of drugs designed to prevent graft-versus-host disease in patients receiving bone marrow transplants. Three researchers at the Fred Hutchinson Cancer Research Center who conducted the studies also held shares of stock in and were paid for consulting positions at the company that owned the drugs under study. An investigative report conducted by the Seattle Times in 2001 suggested that these financial interests motivated researchers to continue the studies despite evidence of increased deaths.

Moreover, these researchers had been influenced by the manufacturers of the drugs for studies sponsored by the company, only five percent of which were independently among similar studies.

As with abuses in the Catholic Church by priests, there has been a failure of the human research institutions to supervise and control the conduct of the researchers.

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12 Consider this state of affairs.

13 Neither our biomedicine nor the world of commerce can meet these conflicting demands, and, in the process, we see a failure in the blossoming of virtue in the environment of research.

This failure is not unique to the medical research setting, as it occurs not only in medical research, but also in other settings, such as the academy.

David Korn, Address at the Dept. of Health and Human Services, "New Conflict-of-Interest Guidelines," Fed. Reg. No. 7 ("The fear is that we have not been forthcoming with the information about potential conflicts.

14 The phrases "responsible institution" and "institutional review board" are used interchangeably throughout this paper.
evidence of increased risk of harm to subjects, which in turn led to several deaths.\textsuperscript{11}

Moreover, there is empirical evidence that the objectivity of researchers has been influenced by their financial ties to the sponsors of research or the manufacturers of products under study. Researchers found that cancer drug studies sponsored by drug manufacturers arrived at unfavorable conclusions only five percent of the time as compared to thirty-eight percent of the time among similar studies that were not funded by drug manufacturers.\textsuperscript{12}

As with abuses of trust among accountants, corporate executives, and priests,\textsuperscript{13} there has been a call for new rules to prevent the erosion of trust\textsuperscript{14} in the human research enterprise.\textsuperscript{15} In response, the Department of Health and

\textsuperscript{11} Id.

\textsuperscript{12} See, M. Fiedberg et al., Evaluation of Conflict of Interest in Economic Analyses of New Drugs Used in Oncology, 282 JAMA 1453, 1453 (1999).

\textsuperscript{13} See, e.g., Cathy Lynn Grossman, Calls for Boston Cardinal to Step Down Intensify, USA TODAY, Apr. 11, 2002, at 2A (noting New York bishops’ agreement to inform prosecutors about priests accused of past sexual abuse); Cathy Lynn Grossman, What the Bishops Approved, and Didn’t Approve, in Dallas, USA TODAY, June 17, 2002, at 6D, Harwood, supra note 2; David S. Hilzenrauh & Helen Dewar, Key Senators See Audit Bill Passing As Debate Starts, WASH. POST, July 9, 2002, at A13 (regarding the reform of accounting regulations); Richard B. Schmitt et al., Corporate-Oversight Bill Passes. Eases Path For Investor Suitors, WALL. ST. J., July 26, 2002, at A1; SEC Chairman, supra note 2; Editorial, Cooperation is the Key, MIAMI HERALD, May 26, 2002, at 4L (rebuiding trust in Church requires Church leaders to cooperate with criminal investigations of priests).

\textsuperscript{14} Consider this statement from Dr. David Korn:

\texttt{[N]either our biomedical science professions nor our academic medical centers have yet stepped up to the challenges posed by [the] profoundly changed relationship between the Academy and the world of commerce, nor have they devised mechanisms that would successfully enable them to meet these conflicting public demands, while remaining free from suspicion and protecting their image of virtue from blench.}

This failure is particularly dangerous, when one considers that biomedical research has flourished because of public trust is the good of the enterprise. That trust is nowhere more fragile than in medical research involving the participation of human subjects, where even the perception of faculty or institutional conflict of interest cannot be tolerated.

David Korn, Address at the Conference on Human Subject Protection and Financial Conflicts of Interest, U.S. Dept. of Health and Human Services (Aug. 15, 2000), available at http://ohrp.osophs.dhhs.gov/coii8-15.htm. See also Editorial, Corporate Cash and Medicine, HARTFORD COURANT, Aug. 23, 2000, at A12 (calling for new conflict-of-interest guidelines to prevent a "crisis of confidence" and distrust of physicians); David Heath, Medical Research Reform Gains Support: More Protections Sought for Participants, SEATTLE TIMES, Aug. 5, 2001, at A1 (stating that the need for reform "is a burning issue . . . of credibility and trust"); Stoberg, supra note 7 ("The fear is that the lure of profit could color scientific integrity, prompting researchers to withhold information about potentially dangerous side effects or push for experiments that might not be quite safe."); infra notes 138-42 and accompanying text.

\textsuperscript{15} The phrases "research enterprise" or "human research enterprise," is used throughout this Article.
Human Services (HHS), the National Bioethics Advisory Commission (NBAC), the Association of American Universities (AAU), and the Association of American Medical Colleges (AAMC) have issued guidelines for the management of financial conflicts of interest in human subjects research.16 In one form or another, all recommend that research institutions manage conflicts of interest through internal committees, prohibiting some financial arrangements while disclosing all others to prospective human subjects. Additionally, academic and political commentators have proposed similar trust-preserving rule changes.17


Although the discussion and commentary highlighted in this Article focuses on that which occurred after the Gelsinger controversy, there is literature on the topic of conflicts of interest in clinical research that predates the Gelsinger case. See, e.g., AAMC GUIDELINES FOR DEALING WITH FACULTY CONFLICTS OF COMMITMENT AND CONFLICTS OF INTEREST IN RESEARCH (1990); CONFLICTS OF INTEREST IN CLINICAL PRACTICE AND RESEARCH (Roy G. Spece, Jr. et al. eds., 1996). The flurry of commentary in the early 1990s was in part due to controversial cases involving conflicts of interest in clinical research that triggered Congressional hearings. H.R. REP. NO. 101-688 (1990). For a brief history of the development of conflict of interest policy relating to clinical research at universities, see DOLLARS AND SCHOLARS: AN INQUIRY INTO THE IMPACT OF FACULTY INCOME UPON THE FUNCTION AND FUTURE OF THE ACADEMY (Robert H. Linnell ed., 1982); Peter J. Huntington, Faculty Conflicts of Interest in an Age of Academic Entrepreneurism: An Analysis of the Problem, the Law and Selected University Policies, 27 J.C. & U.L. 775, 783-85 (2001). See also Jeronimo P. Kassirer & Macia Angell, Financial Conflicts of Interest in Biomedical Research, 329 NEW ENGL. J. MED. 570 (1993); 390 (1993); Claire Turcotte Nurmia, Current Controls and Proposed Solutions to Conflict of Interest, 310 Ann. Intern. Med. 1103 (1994); 310 J.A.M.A. 1515 (1993); 310 J.A.M.A. 1515 (1993); 310 J.A.M.A. 1515 (1993).

18 Indeed, the rules are changing,18 and cracking down on financial conflicts of interest will likely put their financial interests in question. The answer offered here is not an easy one.

Using the law to achieve a desirable but tricky balance between subject safety and normative movement is difficult.19 A particular norm in the area of research might buy-in to the use of research as a punitive consequence to those who flout the rules. The use of new regulatory mechanisms can be trusted to those who are untrustworthy. A framework of the law and legalistic and institutional prohibitions, new or improved, may help achieve a balance.
Thus, the rules for financial conflicts of interest in human subjects research are changing, and they are doing so in the name of preserving trust. By cracking down on financial conflicts of interest in human subjects research, the law will restore public faith that researchers and research institutions will not put their financial interests ahead of the safety of human subjects. Right? The answer offered here is not necessarily.

Using the law to promote a trustworthy human subjects research system is viable but tricky because it involves promoting a norm of fidelity to human subjects safety among researchers and research institutions. As the law and norms movement has established, gaining compliance with a norm through the law is difficult. First, it requires an adequate legal expression of the particular norm in the hope of gaining the voluntary compliance of those who might buy-in to the law’s “spirit.” Second, the law must provide sufficient punitive consequences to deter those whose compliance can only be coerced with the threat of punishment. Third, the law must be careful to avoid so completely regulating conduct as to imply that those whom the law regulates are untrustworthy. This would undermine the chance of promoting the “spirit” of the law and lead to self-interested, loop-holing behavior. So, while new prohibitions, new disclosure requirements, and new limitations on institutional


18 Indeed, this reality has been noted in verse. Here is an excerpt of a song sung at the 2001 "IRB Follies."

Come all you researchers a seekin' to know
And tell me what you're going to do with the dough
When the drug that you're testing gets the FDA "go"
And the stock in your company's gains'
And the conflict of interest is hurtin' you so
For the rules they are a'changin'


19 See infra note 159 and accompanying text for a summary of lessons from the law and norms movement.
discretion in managing financial conflicts of interest can promote fidelity to human subject safety in the research enterprise, it might also undermine the very goal of trustworthiness that it is attempting to pursue.

This Article examines whether proposed strategies for regulating financial conflicts of interest are likely to achieve the goal of a trustworthy human research enterprise. It does not question whether enhancing trustworthiness is an appropriate goal; rather, it assumes that such a goal is worth pursuing. It argues that adopting trustworthiness as a regulatory goal has significant implications for the style of regulation that the law must employ. The Article then questions whether regulatory strategies proposed to date are consistent with a trust-promoting style and, thus, whether those strategies are likely to result in a more trustworthy human research enterprise.

In Parts I and II, the Article examines the commercial incentives at work in human subjects research and describes common financial conflicts of interest in light of those incentives. Part III outlines current federal regulation of financial conflicts of interest in research as well as proposals for reform. Part IV then analyzes current reform proposals according to three principles associated with the law and norms movement: exploiting the expressive function of law, increasing the accountability of those who violate the law, and avoiding the potential to undermine a norm through over-regulation. The Article concludes that current reform proposals are generally consistent with, but insufficient to achieve, the goal of a more trustworthy human research enterprise because they do not include either an enforceable duty of fidelity to human subject safety that is sufficiently broad or an adequate check on institutional bias in the internal management of conflicts of interest.

I. THE POLITICAL AND ECONOMIC CONTEXT OF FINANCIAL CONFLICTS OF INTEREST IN HUMAN SUBJECTS RESEARCH

It is impossible to identify and understand financial conflicts of interest in human subjects research without first understanding the political and economic context in which they exist. Financial conflicts of interest are an outgrowth of federal technology transfer policy, which has successfully employed market incentives to make researchers and their institutions more responsive to the needs of corporations creating commercial medical products.

In the late 1970s, federal policy makers were concerned that the United States was lagging behind Japan in transforming the results of scientific research into commercial products. On the fact that the research was public, the intellectual property generated by the research was unresponsive to market incentives. The government therefore accessible, and the federal government might invest in the commercialization of publicly funded—technology if such investments were seen as languishing. To encourage greater innovation in research and to encourage greater private investment in research, Congress passed the Bayh-Dole Act, § 200-12 (2000). The law is intended to promote private investment in research and development and feel more confident that the federal government will play a role in the development of these technologies. The law allows federal agencies to transfer technology outside the federal government when it is in the public interest to do so. The law also allows federal agencies to use the proceeds of these transfers to support basic research.

26 The purpose of the Bayh-Dole Act is to stimulate commercialization of research and to promote private investment in research and development.
29 See Rai, supra note 25.
research into commercial products, and they blamed this shortcoming in part on the fact that the results of publicly funded research were, at that time, public intellectual property. Policy makers believed that private corporations capable of developing commercial products from the results of scientific research were unwilling to do so where the research results were public and therefore accessible by competitors. Those corporations feared that they might invest in the development of a new product only to be beaten to the patent office—and to market—by a competitor with equal access to the results of publicly funded, scientific research. Accordingly, few corporations made such investments, and potentially valuable results of public research languished. Moreover, given the disconnect between publicly funded research and privately funded product development, there was concern that the national research agenda was driven by the intellectual interests of researchers without regard for the commercial interests of potential product developers.

To encourage greater production of commercial applications of scientific research and to encourage greater production of commercially valuable research, Congress passed the Bayh-Dole Act in 1980. Along with other federal statutes, the Act made the results of publicly funded research the private intellectual property of institutions and researchers. The Act made it possible for private developers to purchase exclusive rights to research results and feel more confident that an investment in the development of commercial applications of the research would not be wasted.

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23 See Rebecca S. Eisenberg, Public Research and Private Development: Patents and University Technology Transfer in Government-Sponsored Research, 82 VA. L. REV. 1663, 1708 (1996); see also Peter D. Blumberg, From "Publish or Perish" to "Profit or Perish": Revenues from University Transfer and the § 501(c)(3) Tax Exemption, 145 U. PA. L. REV. 89, 98 (1996).
26 The purpose of Bayh-Dole was "to promote the utilization of inventions arising from federally supported research or development" by privatizing ownership of research data and discouraging the inefficiencies when research results were publicly accessible. 35 U.S.C. § 200 (2000). See also Aru Kaur Rai, Regulating Scientific Research: Intellectual Property Rights and the Norms of Science, 94 NW. U. L. REV. 77, 95-97 (1999); Eisenberg, supra note 23, at 1691-95.
28 See 35 U.S.C. § 202(a), (c)(7)(B); see also Rai, supra note 26, at 96-97.
29 See Rai, supra note 26, at 96 (stating that “monopoly rights in inventions were seen as necessary . . . as
Our experience more than twenty years after passage of the Bayh-Dole Act suggests that Congress accurately identified and bridged the gap between the production of scientific research results and the commercial exploitation of those results. All indications are that, by privatizing the ownership of scientific research results, Congress effectively created the "technology transfer" market, designed to speed the transformation of science into commercial products.

First, universities and researchers are filing patent applications in unprecedented numbers that appear to grow each year. Additionally, technology transfer offices have become standard in research institutions. They find money for institutional research and assist researchers and their institutions to capitalize on patent rights concerning the results of research conducted at those institutions. According to a survey of university technology transfer managers in 2000, universities entered into more than 4,300 commercial licenses for use of research data developed at those universities, which was up eleven percent from 1999. There were almost 21,000 active licenses between universities and private corporations in 2000, which generated $1.26 billion in annual income to universities in the form of licensing fees, royalties, and equity, representing more than a nine percent increase in income from 1999.

Second, private ownership of research has spawned a new kind of corporation—the faculty start-up—through which researchers and research institutions exploit the commercial value of their research results. "Faculty start-up" is a moniker given to corporations created to hold the intellectual property generated by researchers' work. Researchers, recognizing the

an incentive for private firms to undertake the further investment necessary to translate the inventions into marketable products."

According to surveys conducted by the Association of University Technology Managers (AUTM) in 1999 and 2000, annual university patent filings increased from 250 per year to 2000 as a result of Bayh-Dole's passage. AUTM Surveys, at http://www.autm.net/index.jsp (last visited Mar. 1, 2003).

AUTM is the organizing body for technology transfer operations at more than 300 universities, hospitals, and other nonprofit institutions. Id. The site also provides links to the technology transfer websites of member organizations.


Id.

See Harrington, supra note 17, at 780-81 (describing faculty start-ups and suggesting that they are a relatively common practice among academic researchers); see also Stolberg, supra note 7 (describing several examples of faculty start-ups, including Genovo from the Gelsinger case).
potential market value of a license to their research results, create corporations—often times with the help of their institution's technology transfer office—and perhaps with the institution as a co-founder—to hold and license those research results. Approximately 450 faculty start-ups were incorporated in 2000, and a total of nearly 3,400 have been incorporated since the passage of Bayh-Dole. Interestingly, the Gelsinger case involved a faculty start-up: the researcher linked to Jesse Gelsinger's death owned millions of dollars in equity in the firm he founded.

The rise of market-driven medical research, however, is not solely the result of a change in intellectual property laws. The ever-increasing demand for new medical products—mostly prescription drugs—has increased the demand among drug companies for medical research supporting applications to the Food and Drug Administration (FDA) for the right to market new drugs. This need, in turn, has given rise to commercial research organizations (CROs) and a highly competitive market among suppliers of medical research.

CROs provide a variety of research services to drug manufacturers. They design and conduct research, analyze data, and draft FDA applications and

37 See Harrington, supra note 17, at 780.
38 See ATUM, supra note 33, at 14-16 S. 17.
39 See Stolberg, supra note 7 (reporting that the researcher founded the company and listing it in an article describing the phenomenon of faculty start-ups).
40 See PRICEWATERHOUSECOOPERS, PHARMA2005: AN INDUSTRIAL REVOLUTION IN R&D 2, 3 (1998) (stating top 20 pharmaceutical companies have seen their R&D spending double in last seven years with U.S. companies investing about $21 billion in 1998); John Connor, Prescription Drug Costs Continue To Rise Rapidly-GAO, DOW JONES INT' L, NEWS, Apr. 17, 2002 (stating prescription drug spending grew at twice the rate of all health care spending from 1995 to 2000 with spending on new drugs making a significant contribution to the rate of increase); Bob Woods, RX for Job Anxiety: Shortage of Pharmacists Persists—Pay and Perks Prove It, HARTFORD COURANT, July 22, 2002, at E1 (“The number of prescriptions dispensed is expected to rise from 3.01 billion in 2001 to almost 4 billion in 2005, according to the National Association of Chain Drug Stores.”); see also Michael J. Makowsky, Institutional Conflicts and Responsibilities in an Age of Academic-Industry Alliances, 8 WIDENER L. SYMP. 1, 47, 53-54 (2001) (stating that given recent pharmacologic breakthroughs, the general public perceives that the best treatment occurs in clinical trials, and it wants access). But see Robert Pear, Marketing Tied to Increase in Prescription Drug Sales, N.Y. TIMES, Sept. 20, 2000, at A18 (indicating 10-25% of the increase in drug spending since 1997 is attributable to new laws permitting prescription drug advertising to consumers).
41 For literature related to CROs and the commercial drug trial industry, see Andrew E. Kaura & Andrea V. Nasari, Contract Research Organizations: Careful CRO Selection As a Tool to Avoid Potential Risks, in HEALTH CARE CONTRACTING 2000: NEW MODELS FOR THE MANAGED CARE ERA 301, 305-06 (PLI Corporate Law & Practice Course, Handbook Series No. 50-00DW, 1999) (“In 1994, members of the Pharmaceutical Research and Manufacturers Association and U.S. biotech companies spent approximately $1.4 billion on
journal articles. CROs typically provide all of these services, while a similar kind of firm, known as a site management organization, specializes in organizing networks of community physicians to act as researchers, enrolling human subjects and delivering data to analysts. All of these services are done for a fee.

Between 1991 and 1998, private corporations that fund clinical trials dramatically decreased the amount of money paid for clinical trials conducted at academic medical centers, turning instead to CROs. In 1991 eighty percent of private funding for clinical trials was paid to academic medical centers; by 1998 that percentage had dropped to forty percent. This decrease occurred despite the fact that the pharmaceutical industry more than doubled its spending on research and development during the same time period.

The success of CROs has put new economic pressure on academic medical research institutions to compete for research funding from drug manufacturers. By the mid-1990s, academic medical centers relied on private corporations for, on average, $948 million of annual revenue, which represented about 3.5% of total revenue and about 22% of all grants and contracts supporting research. While this is not a large percentage of

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43 See also Bodenheimer, supra note 17, at 1540.
44 An SMO is a unique kind of CRO.
45 See Bodenheimer, supra note 17, at 1540.
46 See supra note 41.
47 See 1 NBAC, supra note 16, at 6; Bodenheimer, supra note 17, at 1540.
48 See PRICEWATERHOUSECOOPERS, supra note 40; see also supra note 40 and accompanying text. Spending by pharmaceutical firms on research at CROs doubled during this time period. See Kantra & Nassan, supra note 41; supra note 40 and accompanying text.
49 Academic medical centers may not have experienced the full economic effect of CROs because the total pool of research money available to academic medical centers and CROs from private biotechnology firms grew substantially during the period of time that those firms decreased the percentage of funding they granted to academic medical centers. See Kantra & Nassan, supra note 41; PRICEWATERHOUSECOOPERS, supra note 40; supra note 40 and accompanying text. Thus, if and when spending by private firms on external medical research flattens, academic medical centers are likely to find that their annual revenue from private research grants will shrink whether measured in dollars or in percentage of total revenue.
50 See AAMC, AAMC DATA BOOK: STATISTICAL INFORMATION RELATED TO MEDICAL SCHOOLS AND TEACHING HOSPITALS 41 (2001) (containing data for FY 1993-94). AAMC has collected similar data concerning revenue at academic medical centers attributable to grants and contracts for fiscal years as recent as 1998-99; however, this data is not sufficiently detailed to identify revenue from nongovernmental grants and contracts in support of research. See id. at 40-41. In fiscal year 1998-99, grants and contracts from sources other than the federal government, which were used for research as well as nonresearch purposes, accounted for 11.3% of total revenue. See id. at 40.
services, while a similar specialization, specializes in researchers, enrolling 1 of these services are

that fund clinical trials clinical trials conducted In 1991 eighty percent medical centers; by $this decrease occurred more than doubled its same period.47

on academic medical funding from drug medical centers relied on annual revenue, which 2% of all grants and the large percentage of

40 and accompanying text: time period. See Kantra &
effect of CROs because the from private biotechnology percentage of funding they _PRICETWAHOUSECOOPERS_, spending by private firms on their annual revenue from total revenue. To MEDICAL SCHOOLS AND regulators has collected similar data for fiscal years as recent as nongovernmental grants and contracts from sources research purposes, accounted

revenue, it is significant and "gives the industry corresponding power over the direction of research."50 Based on interviews with executives in pharmaceutical companies and CROs, one observer concluded that drug companies are "turning from academic medical centers to a growing for-profit marketplace whose key players are CROs" because they are frustrated by the slow pace at which academic research offices and institutional review boards review industry research proposals.51 Slow-paced research leads to delays not only in the human subjects research but ultimately in obtaining FDA approval for a drug at an average cost to drug manufactures of $1.3 million per day of delay.52

In response, several academic medical research institutions have created organizations designed to compete with CROs. For example, Columbia University, Cornell University, and New York Presbyterian Hospital joined forces to create Clinical Trials Network.53 The University of Pittsburgh Medical Center Health System, Duke University, and the University of Rochester each have developed similar research networks as well.54

Against this backdrop, revelations of financial ties between the academic medical research community and industry55 simply confirm that the market economy is hard at work in medical research. In other words, one person's financial conflict of interest is another example of efficient technology transfer. Moreover, those conflicts of interest indicate that researchers and research institutions, in addition to their potentially conflicting roles of treating

50 David S. Shanm et al., Conflicts of Interests in Relationships Between Physicians and the Pharmaceutical Industry, in CONFLICTS OF INTEREST: IN CLINICAL PRACTICE AND RESEARCH, supra note 17, at 321, 323 (referring to the total amount of money that the pharmaceutical industry spends on human subjects research).
51 Bodenheimer, supra note 17, at 1540.
52 Id.
53 Id.
54 Id.
the sick and making medical discoveries, juggle a third potentially conflicting role as entrepreneurs.

II. A DESCRIPTION OF FINANCIAL CONFLICTS OF INTEREST IN HUMAN SUBJECTS RESEARCH

Having established the political and economic context in which financial conflicts of interest associated with human subjects research occur, it is important to identify the kinds of financial conflicts of interest at issue. Briefly summarized, many commentators have identified as the most troubling (1) the ownership of stock and stock options by researchers and research institutions in companies that stand to benefit from the results of the researchers’ work, (2) exorbitant consulting and speaking fees paid by those companies to researchers and research institutions, and (3) fees paid by companies sponsoring clinical trials to community physicians for every patient referred to those trials and to clinical researchers for every human subject enrolled in the trials. Yet, given the extent to which academic medical centers rely on research funding from private corporations as revenue, and the fact that they compete with CROs for those funds, it is important to consider corporate sponsorship of human subjects research as a potential conflict of interest as well. Following a brief description of the term “conflict of interest,” each of these financial ties between industry and those who conduct human subjects research is discussed more fully below.

A. What Is a “Conflict of Interest”?

In the context of medicine, the phrase “conflict of interest” has been defined as “a set of conditions in which professional judgment concerning a primary interest . . . tends to be unduly influenced by a secondary interest.” Similarly, it has been described as “either motives that caregivers have and/or situations in which we are asked to observe, judge, and act on patients’ or will be compromised in some way by definitions attempt to help us identify what society tolerates and what it generally tolerates the consequences of researchers or their practice can cause in patients treated by them.” The definitions capture those conditions in which an investigator’s “undue influence” or “conflict of interest” or, of course, a notion of a “conflict of interest,” simultaneously exists or, in other words, “conflict of interest.”

The mere fact that one should not prevent a meaningful understanding of it. The circumstances of conflict raises a significant risk of underestimating the interests of researchers and researchers and research. It does not, however, provide a complete picture of the research.

62 For additional analysis of research conflicts, see David M. Green, Health Professionals’ CONFLICTS OF INTEREST AND THE ETHICS OF RESEARCH: A Guide for Physicians and Other Health Professionals (Michael D. White ed., 1995).
63 Medicare and Medicaid beneficiaries under either system are beneficiaries, and under either system, payment of referral fees to researchers and research institutions may result in a conflict of interest.
64 Certainly, the scientific community still employs them, but the focus of this Article...
situations in which we could reasonably think that caregivers' responsibilities to observe, judge, and act according to the moral requirements of their role are or will be compromised to an unacceptable degree. Both of these definitions attempt to distinguish between the kinds of competing interests that society tolerates and those that it finds objectionable. For example, we generally tolerate the fact that a physician's interest in earning income from his or her practice can conflict with the interests of protecting the welfare of patients treated by the physician. Yet, a physician is generally prohibited from pursuing that interest to the point of paying or accepting fees in connection with a patient's referral from or to another physician or medical institution. The definitions capture this distinction by including as conflicts of interest only those conditions in which the caregiver's role is or might be "unduly influenced" or "compromised to an unacceptable degree." What constitutes "undue influence" or an "unacceptable compromise" of a caregiver's role is, of course, a normative judgment. Accordingly, by applying the label "conflict of interest," one necessarily claims not only that competing interests simultaneously exist, but also that their mutual existence is wrong. In other words, "conflict of interest" is a pejorative label.

The mere fact that "conflict of interest" is a value-laden term, however, should not prevent its use. Instead, we must use it carefully with an understanding of its full meaning. In this spirit, this Article identifies circumstances of competing interests in human subjects research that pose a significant risk of unduly influencing, among other things, the responsibility of researchers and research institutions to protect the welfare of human subjects. It does not, however, address all of the competing interests at work in human subjects research. Moreover, while interests exist in clinical research other than direct financial gain, including personal interests in promotion, tenure,
and notoriety, financial interests have been the focus of recent debate,\textsuperscript{65} and they are the exclusive focus of this Article.

\textbf{B. Equity Interests of Researchers and Institutions in Industry Sponsors and Faculty Start-Ups}

Of the various kinds of financial conflicts of interest at work in human subjects research, the ownership of stock and stock options by researchers and research institutions in companies that sponsor human subjects research or that have a commercial interest in research results has garnered the most attention. Undoubtedly, this attention is because Jesse Gelsinger’s death may have been caused by a researcher’s inappropriate equity interest in a company.\textsuperscript{66} The incidence of such financial ties is analyzed below with respect to both researchers and research institutions.

The extent to which researchers own stock or stock options in corporations with a commercial interest in the researchers’ work is difficult to determine. Two studies based on surveys suggest that the incidence of equity as a financial conflict of interest in research is significant but relatively low. A survey of 800 biotechnology researchers at thirty-four different research universities published in 1986 by David Blumenthal et al. reported that 8\% of those researchers admitted to owning equity in a company selling products or services that were developed in part based on the researchers’ work, but only 0.5\% admitted to owning equity at the same time as the company was funding their research.\textsuperscript{67} More recently, Blumenthal et al. also published data from surveys of a biotechnology firm about their financial arrangements with academic researchers and found that about seven percent provided equity to faculty.\textsuperscript{68}

Additionally, a case study of internal conflict of interest reports at the University of California, San Francisco (UCSF) from 1980 through 1999

\textsuperscript{65} Conflicts of interests have been distinguished from conflicts of commitment in human subjects research conducted in universities. A conflict of commitment concerns a conflict between responsibilities of a researcher within the university and personal responsibilities taken on outside the university. See Thomas Bodenheimer. Address at the Conference on Research Subject Protection and Financial Conflicts of Interest, U.S. Dept. of Health and Human Services (Aug. 15, 2000), at http://ashp.osophs.dhhs.gov/coi8-15.htm. Thus, a conflict of commitment concerns the relationship between a researcher and the institution rather than the relationship between the researcher and the public or the researcher and the human subject. The focus of this Article is on conflicts of interest because they directly implicate the trustworthiness of the research enterprise in the eyes of the public (generally) and in the eyes of human subjects and would-be human subjects (specifically).

\textsuperscript{66} See supra notes 6\textminus8 and accompanying text for a brief description of the case.

\textsuperscript{67} David Blumenthal et al., Researcher Survey, supra note 55, at 1364.

\textsuperscript{68} David Blumenthal et al., Industry Survey, supra note 55, at 370, fig. 1.

\textsuperscript{69} Throughout this Article. See Elizabeth A. Bolden, Case Study, 784 JAMA 2210 (1997). The research was conducted in 1996 and 1997, with an average value of $10,000. See id. at 2212.

\textsuperscript{70} Although a study of addresses conflicts of interest is instructive about financial conflicts of interests, it is important to note that many manufacturers do not have a financial interest in the research, they want the benefit from having the research conducted. See supra note 55, at 614 tbl.1 (reporting conflicts of interest among a pharmaceutical company and a university). Accordingly, the willingness of a pharmaceutical company to fund a research project is somewhat reflective of its financial interest, but not its commercial interest.

\textsuperscript{71} See Choudhry et al.,

Materials and Problems in Decision Making, supra note 25, at 612.

\textsuperscript{72} See Choudhry et al.,

Materials and Problems in Decision Making, supra note 25, at 612.

\textsuperscript{73} See Choudhry et al.,

Materials and Problems in Decision Making, supra note 25, at 612.
found that, at the end of that time period, about seven percent of all investigators at the university receiving external funding for research reported having a potential conflict of interest and that about fourteen percent of all reported conflicts involved stock or stock options. This means that approximately one percent of all investigators receiving external research funding at UCSF owned stock or stock options that posed a potential conflict of interest. Finally, an analogous survey of authors of clinical practice guidelines (CPGs) reached a similar conclusion. A CPG is a symptom-based or diagnosis-based protocol for patient treatment, and it can include the use of particular medications. Choudry et al., found that 6% of CPG authors reported owning equity in at least one pharmaceutical company, including approximately 1.8% who likely owned equity in a company whose drugs the authors were considering for inclusion in a CPG.

Even assuming that these data represent actual practice among researchers, they are of limited value, however, because they likely underestimate the

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69 Throughout this Article the term "investigator" is treated as a synonym for "researcher."

70 See Elizabeth A. Boyd & Lisa A. Bero, Assessing Faculty Financial Relationships with Industry: A Case Study, 284 JAMA 2209 (2000). The reported value of stock ranged from almost nothing to more than $1 million, with an average value of $100,000, and with only 21% of cases involving stock valued at less than $10,000. See id. at 2212.

71 Although a study of authors of CPGs and their relationships with drug manufacturers does not directly address conflicts of interest in human subjects research, there are several reasons why it is nonetheless instructive about financial conflicts of interest in human subjects research. First, the incentive for manufacturers to have a financial relationship with CPG authors is similar. Just as drug manufacturers might want the benefit from having a purportedly objective CPG recommend use of one of its drugs, so too might they benefit from having apparently objective human subjects research reach a positive conclusion about the safety or effectiveness of their drugs. Second, CPG authors are often researchers. See Choudry et al., supra note 55, at 614 tbl.1 (reporting that 53% of CPG authors responding to the survey received "research support" from a pharmaceutical company, implying that 53% of responding CPG authors were researchers). Accordingly, the willingness of a CPG author to participate in determining whether the drug manufactured by a pharmaceutical company sponsoring his or her research should be recommended as part of a CPG should be somewhat representative of a researcher's willingness to make decisions that affect both human subject safety and the commercial interest of the pharmaceutical company funding his or her research.

72 See Choudry et al., supra note 55, at 612. See also Barry R. Furrow et al., Health Law: Cases, Materials and Problems 179 (4th ed. 2001) (stating that CPGs "are sets of suggestions, described in decision rules, based on current medical consensus on how to treat a certain illness or condition").

73 See Choudry et al., supra note 55, at 614 tbl.1. The estimate that equity ownership among 1.8% of CPG authors represented a conflict of interest is based on the finding that 59% of CPG authors reported having financial ties of all kinds (including but not limited to owning equity) with pharmaceutical companies whose drugs were considered for inclusion in a CPG, and that more than half of that group reported that their financial relationship both pre-dated and post-dated the time during which the respondents were working on CPGs. Assuming that these general percentages apply to the subgroup whose financial ties were in the form of equity ownership, this suggests that about 1.8% of respondents had an equity interest in a drug company at the very time that they were considering whether drugs manufactured by those companies should be recommended for use in a clinical guideline.
actual incidence of stock and stock option ownership as a financial conflict of interest in research. 74 First, they are based upon surveys in which individual researchers are asked to admit that they have a financial conflict of interest. Therefore, they fail to account for the fact that individuals might not accurately report their equity interests because they fear that their conflicts of interest might be discovered. 75 Second, the data does not account for ownership of faculty start-ups. 76 Instead, the surveys sought information about stock that researchers own in companies that they did not create. Given the rise in researchers’ founding and owning their own research holding companies, it is likely that the incidence of stock ownership as a conflict of interest is significantly higher than suggested by the data.

Moreover, the phenomenon of equity ownership in companies with commercial interests in the outcome of human subjects research is not limited to equity owned by researchers. Institutions housing human subjects research also own stock and stock options in companies that sponsor human subjects research in those institutions and have equity positions in faculty start-ups that hold research assets while building their value and seeking potential buyers and licensees. For example, a survey in 2000 revealed that 186 research institutions acquired equity in 252 new faculty start-ups, which represents 56% of all start-ups created that year. 77

C. Human Subject Recruitment Fees and Corporate Consulting Fees

Human subject recruitment fees (e.g., per capita payments and finder’s fees) paid by corporate sponsors of research are another form of payment that could give rise to a financial conflict of interest. 78 Sponsors make payments to researchers for each human subjects are are physicians for each patient. Such fees do not necessarily reimburse research personnel enrolling, and connecting, patients. Nonetheless, they can make referring physicians feel they have the safety interests of their patients at heart. Anecdotal evidence suggests that hundreds of dollars per patient. Additionally, research institutions that have received such payments and use them to cover recruitment fees is widely reported.

Consulting fees paid by researchers’ studies and for successful treatments is yet another example. Like human subject recruitment fees, they are problematic to the research enterprise. When consulting services pay, they are likely to be linked to potential conflicts of interest. Researchers are less likely to withhold information about potential conflicts of interests from their home universities than they are to withhold information from outside surveyors. This indicates that the self-reporting bias may not exist.

74 It is possible that the likely underestimation of the incidence of stock and stock option ownership as a conflict of interest is offset by another factor: the data does account for value of stocks or stock options owned by researchers, or how that value compares to the researchers’ total income. Accordingly, the data might lead one to count as a conflict of interest stock ownership that is unlikely to influence a researcher’s behavior because it is of such little value relative to a researcher’s total income. See Pilar N. Osorio, Pills Bills and Shills: Physician-Researcher’s Conflicts of Interest, 8 WIDENER L. SYMP. 75, 91 (2001) (stating that $10,000 out of a $600,000/year salary is not very much but $10,000 out of $80,000 is).

75 But see Boyd & Bero, supra note 70. The 1% rate suggested by Boyd and Bero is generally consistent with the 0.5% and 1.8% rates of stock and stock option ownership conflicts suggested in the data reviewed above. Assuming that researchers are less likely to withhold information about potential conflicts of interests from their home universities than they are to withhold that information from outside surveyors, this indicates that the self-reporting bias may not exist.

76 See supra notes 35-39 and accompanying text for a description of a faculty start-up.

77 AUTM, supra note 33, at 23.

78 See Lind, supra note 17; Office of Inspector General, Recruiting Human Subjects: Sample Guidelines for Practice 8 (June 2000).
researchers for each human subject enrolled or when a targeted number of human subjects are enrolled. Additionally, sponsors may pay a fee to physicians for each patient they refer to a study as a potential human subject. Such fees do not necessarily pose a conflict of interest because they could simply reimburse researchers and physicians for the actual cost of referring, enrolling, and conducting research on a particular human subject. 

Nonetheless, they can be used as a vehicle for over-paying researchers and physicians, and, thus, they can provide a financial incentive for researchers and referring physicians to serve the interests of the research sponsor rather than the safety interests of human subjects and would-be human subjects. Anecdotal evidence suggests that these recruitment fees can be in the thousands of dollars per human subject. Thus, they likely create a conflict of interest. Additionally, one case study implied that 100% of researchers at one research institution—whose research was funded by a corporate sponsor—received such payments, suggesting that the practice of paying human subject recruitment fees is widespread.

Consulting fees paid to researchers by companies either sponsoring the researchers' studies or having a financial interest in the outcome of those studies is yet another potential conflict of interest in human subjects research. Like human subject recruitment fees, the payment of a consulting fee is not problematic to the extent that it is reasonably reflects the value of the consulting services provided by a researcher. Consulting fees can create a potential conflict of interest, however, when they exceed the value of the services provided. In those instances, the excess payment could serve as a financial incentive for researchers to serve the interests of the paying corporation even at the expense of human subject safety.

80 See, e.g., Sheila Kaplan & Shannon Brownlee, Dying for a Cure: Why Cancer Patients Often Turn to Risky, Experimental Treatments—And Wind up Paying with Their Lives, U.S. NEWS & WORLD REP., Oct. 11, 1999, at 34, 36 (stating that drug companies pay doctors up to $6,000 per capita); Shimm et al., supra note 50 ("To obtain a sufficient number of patient-subjects in an acceptable period of time, manufacturers offer clinician-investigators financial inducements to enter patients into studies, typically $2000 to $5000 per patient.").
81 See Shimm & Spece, supra note 17, at 482 n.13 (noting a survey conducted about human research at the University of Arizona College of Medicine and suggesting that every industry-sponsored research project listed at the College involved some version of a human subjects recruitment fee).
82 See, e.g., Angell, supra note 17; Goldner, supra note 7, at 383; Kassirer & Angell, supra note 17; Michael D. Witt & Lawrence O. Gostin, Conflict of Interest Dilemmas in Biomedical Research, 271 JAMA 547 (1994).
There is evidence that researchers are paid consulting fees, and that this financial tie is undermining the scientific objectivity of at least some researchers. For example, the UCSF study found that 33% of potential conflicts of interest reported by researchers to the University (or about 2.5% of all investigators receiving extramural research funding in 1999) involved consulting fees ranging from $1000 to $120,000 annually with 61% reported at $10,000 or less. The analogous study of conflicts of interest among CPG authors reported findings similar to those in the UCSF case study. There, thirty-eight percent of CPG authors reported having paid consulting arrangements with pharmaceutical companies whose products were under consideration for inclusion in a CPG. Finally, a study conducted by Henry Thomas Steffox et al. found that, among researchers supporting the use of a particular drug, ninety-six percent had a financial tie to the drug’s manufacturer (as compared to thirty-six percent who opposed the drug), including twenty-one percent who were either paid consultants or employees.

In addition to the potential that they create conflicts of interest among researchers, human subject recruitment fees and consulting fees can pose institutional conflicts of interest as well. When the individual to whom such fees are paid has responsibility to oversee or who is in a position to significantly affect the safety of human subjects, then such fees can undermine the institutional commitment to protecting human subject safety.

D. Corporate Research Sponsorship As a Conflict of Interest for Researchers and Institutions

Stock and stock option ownership, human subject recruitment fees, and consulting fees can pose significant financial conflicts of interest in human subjects research. Nonetheless, they are not the only form financial conflicts take. Drug manufacturers and other biotechnology firms directly sponsor

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83 See Boyd & Bero, supra note 70, at 2211-12.
84 See Choudhry et al., supra note 55, at 614 tbl.1.
85 See Henry Thomas Steffox et al., Conflict of Interest in the Debate Over Calcium-Channel Antagonists, 338 NEW ENG. J. MED. 101, 103-04 (1998).
86 The AAMC Task Force on Financial Conflicts of Interest in Clinical Research recognized the possibility that an individual conflict of interest can create an institutional one:

[When an individual has the authority to make decisions that affect or reasonably appear to affect the conduct, review, or oversight of human subjects research at the institution, while at the same time holding a significant financial interest in the investigational product or the research sponsor ... an institutional conflict of interest may exist.

AAMC, Institutional COIs, supra note 16, at 5 (internal citation omitted).
human subjects research, and those funds pay the salaries and research budgets of researchers and research institutions. Given the market competition for private research funds among academic research institutions and CROs, such sponsorship and the threat of losing it can also pose a significant financial conflict of interest for both researchers and their institutions. As many as 50,000 clinical investigators received grant funding for at least one research project involving human subjects in 2000.\textsuperscript{87} Private industry funds approximately three-quarters of those grants,\textsuperscript{88} meaning that about 32,000 researchers received human subjects research grants from private industry. This number seems consistent with a finding by Blumenthal et al. in the mid-1990s that close to sixty percent of biotechnology companies supported life science research in academic institutions.\textsuperscript{89}

There is also some data to suggest that grant funding can be substantial and influential. Blumenthal et al. found that, in 1984, twenty-three percent of academic researchers surveyed reported being principal investigators of studies in which one-third or more of the research budget was funded by a corporation.\textsuperscript{90} Such funding by industry is not provided philanthropically, but instead for the purpose of generating data needed to receive approval of the FDA to market a new drug or medical device.\textsuperscript{91} Given the commercial interest that industry sponsors have in the outcome of the research they sponsor, their sponsorship can create a potential conflict of interest. This may explain why investigators in the UCSF case study found that the disclosure of a conflict of interest was highly correlated to the industry sponsorship of the research. They found that fifty-eight percent of research associated with conflicts of interest disclosed to the University by its researchers over a twenty-year period was funded by pharmaceutical companies (forty-three percent), other bio-

\textsuperscript{87} See CenterWatch, Grant Market to Exceed $4 Billion in 2000, CENTERWATCH, Nov. 2000, at 8.
\textsuperscript{88} See id. at 6-8 (finding that, in 2000, members of the Pharmaceutical Research and Manufacturing Association accounted for 61% of spending on human subjects research while corporations that are not members of that association accounted for another 15%, for a total of 76%).
\textsuperscript{89} See Blumenthal et al., Industry Survey, supra note 55, at 368.
\textsuperscript{90} See Blumenthal et al., Researcher Survey, supra note 55, at 1362. The influence of industry sponsorship of human subjects research is also implied from data gathered from the analogous setting of financial relationships between authors of clinical practice guidelines and pharmaceutical companies. Fifty-three percent of those authors report receiving research support from such companies. See Chowdry et al., supra note 55, at 614 tbl.1. Moreover, this study suggests that about one-third of that group (or about 16% of all respondents) received research support from a pharmaceutical company at the time the author was considering whether to include a drug manufactured by a company in a clinical practice guideline. See id.

\textsuperscript{91} See Shimm et al., supra note 50, at 321.
technology firms (nine percent), or medical device manufacturers (six percent).  

Given these data, policy makers should be as concerned—if not more so—with potential financial conflicts of interest posed by the sponsorship of human subjects research by companies with commercial interests in the outcome of the research and the speed with which it is completed. The loss of such a significant percentage of research funding would provide a relatively powerful incentive for academic researchers not to disappoint the interests of those sponsors. Moreover, such funding also represents a financial relationship with the academic institution at which the research is conducted because it accounts for a portion of the institution’s operating budget.

The fact that researchers and research institutions have secured research funding from a drug manufacturer by the time they are making judgments that affect the safety of human subjects does not diminish the likelihood that such funding poses a financial conflict of interest. The modern academic research institution must concern itself with future research grants. Because they now compete with CROs for industry research money, academic research institutions cannot afford to alienate a corporate research sponsor by failing to serve its interests as completely as a competing research institution or CRO might. As discussed next, the risk to human subjects safety from financial conflicts of interest that involve research institutions as well as researchers is significant in part because research institutions are the primary protectors of human subjects safety under current research regulations.

III. CURRENT REGULATIONS AND PROPOSALS FOR REFORM

Financial conflicts of interest in research are not new. They attracted the attention of federal lawmakers more than a decade ago. Congressional hearings in 1989 took note of several highly-publicized cases of alleged scientific misconduct by researchers who also had financial interests in the outcomes of their research. In response, NIH proposed guidelines that prohibited researchers in companies that own stock in the companies they have abandoned NIH’s preclinical research. These regulations do not allow companies in which they have a financial stake to inform their institutions when they receive $10,000 or more, and to ‘manage, reduce, or eliminate’ such conflicts. These regulations are also meant to prevent a conflict of interest from arising that may also made to the FDA.

Current regulations require that institutions disclose and manage conflicts of interest that arise from research conducted within the institution. Financial ties must be propriety, and any financial ties that result from research must be managed, not avoided. Research institutions have also sought out that research institutions will ensure that conflicts of interest are managed properly, and that those conflicts be disclosed to protect human subjects. NIH has a requirement that a financial conflict of interest be free to set their own terms and conditions for managing nonprohibitive financial interests.

The law’s reliance on self-regulatory procedures that involve institutional review boards and self-regulatory procedures...
have secured research funding by making judgments that the likelihood that such conflicts will harm academic research is low. Because they now rely on a relatively powerful entity, the interests of those with financial ties can be protected because it accounts for them.

Current regulations are heavy on procedure and light on substance. They require that institutions implement an intramural process of disclosure, review, and management of financial conflicts of interest associated with an institution's own researchers and the research those investigators propose to conduct within the institution. But they do not require that certain kinds of financial ties be prohibited, specify how other kinds of financial relationships must be managed, nor mandate that nonprohibited financial conflicts of interest be disclosed to prospective research subjects. The underlying assumption is that research institutions, with the cooperation of their affiliated researchers, will protect human subjects from the risks of harm posed by financial conflicts of interest, and that they will do so without any guidance from the law beyond a requirement that an institutional review process exist. Thus, institutions are free to set their own standards for prohibiting financial conflicts of interest and managing nonprohibited financial ties.

The law's reliance on research institutions to police their own financial conflicts of interest and those of their researchers parallels the law's largely self-regulatory process for protecting human subjects from all other research

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97 See Harrington, supra note 17, at 784-85.
98 See id.
100 See id. § 50.605.
102 See 21 C.F.R. § 54.2 (2002).
risks. Rather than regulate human subject safety directly, federal law deputizes research institutions to do so through institutional review boards (IRBs), which are committees of researchers, administrators, and others who—with the exception of at least one institutionally unaffiliated member—are generally employees of the institution. While federal law does not require that IRBs review financial conflicts of interest associated with proposed human subjects research as a condition of approving the research, research institutions may assign that job to their IRBs. The IRB review process for protecting human subjects from research risks predates current conflicts of interest regulations, and the precedent it sets for institutional protection of human subjects may justify the law's deference to research institutions in the management of financial conflicts of interest as well.


104 An IRB must have at least five members, only one of whom must be unaffiliated with the institution. See 45 C.F.R § 46.107 (2002). An institution's IRB reviews every proposal to conduct a study involving human subjects in the institution, see id. § 46.108(b), and no such study may be conducted in an institution unless approved by that institution's IRB, see id. § 46.109(a). Moreover, an IRB may not approve a study unless it determines that, among other things, the risks of harm it poses to human subjects is reasonable relative to likely benefits and the importance of scientific knowledge to be gained from the research, that those risks have been minimized, and that the prospective subjects have been adequately warned about those risks prior to enrolling in the study. See id. § 46.111(a). Additionally, the IRB has the authority to stop studies where injuries occur despite efforts to minimize risks to human subjects. See id. § 46.113.

105 Most research institutions review and manage financial conflicts of interest associated with human subjects research through some combination of a separate internal conflicts of interest committee, a conflicts of interest compliance officer, or an IRB. See AUA, supra note 16. Most proposals for reforming the regulation of financial conflicts of interest in human subjects research recommend that IRBs play a part in such a review process. See, e.g., id. At least one commentator, however, recommends that IRBs be primarily responsible for conflict-of-interest review and management. See generally Goldner, supra note 7.

106 See Robertson, supra note 103, at 485 (noting that federal law mandating IRB review of human subjects research passed in 1978).
The deaths in the Gelsinger and Hutchinson Cancer Research Center cases, however, along with other reports of institutional bias, have prompted a reconsideration of the degree of self-regulation permitted under current regulations. The parents of Jesse Gelsinger accused the University of Pennsylvania of bias in its decision to permit its researcher to conduct the study in which their son died when the researcher had a multimillion dollar conflict of interest. They alleged that the University’s review process was affected by the University’s own equity interest in the company that owned the commercial rights to the study’s findings. Similarly, the president of the Hutchinson Cancer Research Center failed to back its IRB’s request for information about financial interests of Hutchinson researchers in studies they were conducting, and he did so while he and the institution had financial ties to the corporate sponsor of those studies. Clinical trials in the 1980s of a drug designed to dissolve blood clots associated with heart attacks provide yet another example. Members of the steering committee for that research had financial interests in its corporate sponsor. Finally, an FDA investigation of an IRB at Johns Hopkins University found that some of its members had financial interests in some of the studies subject to the IRB’s review, and that, despite their financial bias, those members had failed to recuse themselves from voting on matters concerning those studies.

In the last two years, commentators from a variety of disciplines have proposed reforms in the regulation of financial conflicts of interest in research as have HHS, NBAC, AAMC, and AAU. There appears to be a growing consensus that the reform should include three particular elements: (1) substantive prohibitions on at least some kinds of financial conflicts of interest, (2) continued reliance on institutional review procedures to enforce conflicts of interest regulations and policies, and (3) disclosure of...
financial conflicts of interest to prospective human subjects as part of the informed consent process. While there are differences among the various proposals, those differences generally concern the degree to which one element should be emphasized relative to the others rather than disagreements about the propriety of the elements themselves. Moreover, as discussed more fully below, there is virtual unanimity among the proposals that the primary goal of new regulations is to promote public trust in the human research enterprise.

A. The Role of Research Institutions and Substantive Prohibitions in Reform Proposals

Arguably, financial conflicts of interest in human subjects have become a problem because research institutions have failed to adequately manage them. As described earlier, research institutions are players in the modern drug development market with financial interests of their own, and these interests can clash with the responsibility of those institutions to safeguard human subjects participating in clinical research housed by the institutions. Solutions include replacing institutions as the primary means for managing financial conflicts of interest, narrowing the discretion institutions may exercise in that role, and prohibiting or at least strictly limiting any financial interest that research institutions may have in the human subjects research they house. Of these, narrowing the discretion of research institutions to manage financial conflicts of interest has been the focus of most proposals.

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118 See infra notes 124-28, 130-34 and accompanying text.
119 Cf. Angell, supra note 17, at 1518 (emphasizing the use of substantive bans on particular kinds of financial ties between researchers and corporate research sponsors but recognizing the need for disclosure as well); Goldner, supra note 7, at 397-98 (emphasizing the need for better institutional review procedures and disclosure but recognizing the need for at least some substantive bans). But see id. at 397 (depicting a divide among “abolitionists” like Angell and others who favor a more flexible, institutional process).
120 See infra notes 138-43 and accompanying text.
121 See supra notes 41-54 and accompanying text.
122 See supra notes 107-12 and accompanying text.
123 The options of replacing research institutions as the primary vehicle for safeguarding human subjects or prohibiting or strictly limiting the ability of research institutions to take financial interests in research receive little or no attention most likely because they are considered politically and economically unrealistic. Given a federal technology transfer policy that seeks greater efficiency in research and development of marketable products, a federal human subject protection policy that continues to rely on institutions for enforcement, and the financial dependence of research institutions on private research funding, this resistance is understandable. For a description of one such “unrealistic” proposal, see Harrington, supra note 17, at 790-91 (describing a recommendation by Robert H. Lainell to overhaul the research funding system).

Nonetheless, as is argued below, a chief reason for the law to continue to rely on researchers and research institutions to police their own financial conflicts of interest is the public policy goal of promoting trustworthiness in the human research enterprise. To effectively promote trustworthy behavior by researchers
subjects as part of the process among the various stakeholders and to which one element of the disagreements about the role of incentives discussed more fully below. It is clear that the primary goal of a research enterprise.

prohibitions in Reform

Subjects have become a major issue in reform efforts. In the modern drug research arena, and these interests have contributed to safeguards put in place by the institutions. The means for managing conflicts of interest are often limiting any financial ties between subjects research they are in, institutions to manage financial conflicts of interest. Thus, the proposed prohibitions, in essence, seek to narrow institutional discretion in managing financial conflicts of interest. At the same time, these proposals neither ban institutional review committees nor eliminate the discretion of institutions in managing conflicts of interest. In short, they primarily rely on the force of discretion-narrowing rules and only secondarily on the discretion of institutions.

Reform proposals by AAU and AAMC employ a similar strategy, even though they implement the strategy differently than do proposals by Angell et al. Both organizations recommend that research institutions retain their role in policing both individual and institutional financial conflicts of interest. This is implicit in their recommendations for new rules to guide research institutions in this role. Rather than prohibit specific kinds of financial ties between researchers and industry, AAU and AAMC recommend that research institutions assume that researchers with significant financial interests in particular human subjects research projects may not conduct those projects unless compelling circumstances justify otherwise. Moreover, both define financial interests generally so as to encompass a variety of financial interests that could undermine a researchers' objectivity, including the specific financial ties

For example, Dr. Marcia Angell, former editor of the New England Journal of Medicine, proposes strict prohibitions on many common financial relationships between researchers and corporations that sponsor studies conducted by those researchers or that have a commercial interest in the outcome of such studies. These include bans on researchers owning stock or stock options in such corporations and on receiving consulting fees, honoraria, and gifts from such firms. Similarly, Lo et al. propose that "university-based investigators and staff be prohibited from holding stock, stock options, or decision-making positions in a company that may reasonably appear to be affected by their clinical research." While such proposals to prohibit certain kinds of financial ties between researchers and industry do not expressly reference the discretion of institutions to manage financial conflicts of interest internally, they nonetheless would have the direct effect of eliminating the power of institutions to authorize human subjects research within their institutions if prohibited conflicts of interest exist. Thus, the proposed prohibitions, in essence, seek to narrow institutional discretion in managing financial conflicts of interest. At the same time, these proposals neither ban institutional review committees nor eliminate the discretion of institutions in managing conflicts of interest. In short, they primarily rely on the force of discretion-narrowing rules and only secondarily on the discretion of institutions.

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and research institutions’ respect of conflicts of interest, the law must signal its willingness to trust researchers and research institutions to do just that. See infra note 261 and accompanying text.
that Angell and Lo et al. would prohibit. They employ a similar strategy with respect to financial conflicts of interest among research institutions. In addition to segregating human subjects research administration from technology transfer operations, research institutions are asked under AAU and AAMC guidelines to establish a rebuttable presumption against housing human subjects research in which the institution has a significant financial interest absent compelling circumstances. Again, the underlying strategy is to rely on institutions to protect human subjects from the risks posed by financial conflicts of interest while narrowing the degree of discretion institutions may exercise in that role.

B. Proposals Concerning the Disclosure of Financial Conflicts of Interest to Prospective Human Subjects

Recent guidelines from HHS and recommendations by NBAC and others suggest that, in addition to targeted prohibitions, regulators will rely on informed consent law as the vehicle for requiring disclosure of financial conflicts of interest to prospective research subjects. HHS and NBAC each recognize that institutions may choose to reduce or otherwise manage a conflict of interest rather than to eliminate it. In those cases, both HHS and NBAC instruct institutions and IRBs to assure that conflicts are disclosed to prospective subjects as part of the informed consent process. HHS’s draft guidelines state, “If a financial conflict of interest on the part of the Institution and/or Clinical Investigator has not been or cannot be eliminated, what the financial arrangement is and how that conflict is being managed should be disclosed in the Consent document.” Similarly, NBAC proposes that disclosures to prospective subjects concerning financial conflicts of interest be made “as part of the informed consent process” overseen by IRBs.

HHS and NBAC are not alone in recommending that research institutions disclose financial conflicts of interest to prospective research subjects through the informed consent process. Some commentators have made similar recommendations, as have AAU and AAMC.

130 See HHS, supra note 16, § 5.3 (emphasis added).
131 See 1 NBAC, supra note 16, at 60.
132 See Goldner, supra note 7; Miller, supra note 17; Shimm & Spece, supra note 17.
133 See AAU, supra note 16, at 5.
134 See AAMC, Individual COIs, supra note 16, at 18.

There are at least two additional problems. First, quoting a financial conflict of interest is not necessarily to adequately inform prospective subjects what risks they are facing. Second, disclosure does not protect data subjects from the potential conflict of interest. Therefore, the protection of human subjects is left to the discretion of research institutions.

Of course, disclosure is not a cure-all. For example, prospective research subjects’ participation in the research cannot be taken for granted. Any warning about a financial conflict of interest must be taken seriously by the research institution. Moreover, disclosure does not necessarily assure accurate and complete disclosure of financial conflicts of interest to prospective research subjects and to the research enterprise.

C. The Goal of Trust

In addition to balancing the ethical and legal standards of research reforming the regulatory structure for research, there is a clear need to promote public trust and assuage distrust. The Public Citizen’s Legal Action Project (2001) states that the purpose of this legal project is to ensure that all patients, research subjects, and citizens are “fully informed and able to make fully informed choices” in their treatment and in their participation in research studies. This means that the public must be assured that informed consent has been obtained in a manner that is meaningful and adequate. It also means that the public must be assured that research subjects are fully informed about the risks and benefits of research and that they are not used as experimental subjects in a manner that is exploitative.

136 See infra Part IV.
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There are at least two good reasons to require disclosure of financial
conflicts of interest associated with clinical research to prospective human
subjects. First, quite apart from protecting human subjects, disclosure is
necessary to adequately respect the autonomy of individuals to determine for
themselves what risks of harm they are or are not willing to expose themselves
to.135 Second, disclosure has the potential to empower prospective human
subjects to protect themselves from any risk of harm associated with a
potential conflict of interest. If this empowering effect occurs, then the
protection of human subjects is less dependent on either prohibitions or the
discretion of research institutions.

Of course, disclosure, despite its popular appeal, has its own set of
problems. For example, the empowering effect is not likely to materialize in
every case. Prospective human subjects who are seriously ill and who perceive
participation in the protocol as their only hope for improvement may ignore
any warning about potential conflicts of interest. Likewise, a prospective
human subject who has been referred to a study by a trusted physician might
not take seriously any warning about a financial conflict of interest.136
Moreover, disclosure as a line of protection against the harmful potential of
financial conflicts of interest may send the wrong signal to prospective human
subjects and to researchers, research institutions, and corporate consumers of
clinical research. It suggests that human subjects can and will protect
themselves and thus no other line of protection is necessary. Whether this is
consistent or inconsistent with the policy of promoting a trustworthy human
research enterprise is an issue addressed in detail below.137

C. The Goal of Trustworthiness Underlying Reform Proposals

In addition to an apparent consensus of opinion about the strategy for
reforming the regulation of financial conflicts of interest in human subjects
research, there is virtual unanimity that the ultimate goal of reform is to
promote public trust in the human research enterprise. For example, HHS
states that the purpose of its draft guidelines is to create “a stronger bond of

135 See RUTH R. FADEN & TOM L. BEAUCHAMP, A HISTORY AND THEORY OF INFORMED CONSENT 277-80
(1986) (developing a theory of informed consent as autonomous authorization); see also Robert Gutter,
136 See Goldner, supra note 7, at 379 (describing the case of a patient who, unaware of recruitment fees
being paid to a physician he trusted, did not question the physician’s referring him to a prostate cancer drug
study despite his confusion about why he should participate in the study at all).
137 See infra Part IV.
trust” between those involved in clinical research and prospective research subjects so as to “facilitate enrollment” and display “integrity and responsibility.”138 NBAC expressed a similar goal for its recommendations to overhaul the system of protection for research subjects. After describing several disturbing examples of lax protection for subjects, including the problem of financial conflicts of interest in the Jesse Gelsinger case, NBAC finds that the “real and potential harms involved in these and other well-publicized examples... erode public trust in the research enterprise...”139 NBAC concludes that “a viable and credible oversight system should aim first to protect participants from undue harm, with the additional goal of creating an environment in which ethically sound and meritorious research can be conducted with society’s support and trust.”140 Likewise, AAU and AAMC claim that their recommendations for reform aim to improve public trust.141 Furthermore, virtually every commentary concerning financial conflicts of interest in clinical research, regardless of differences in their ultimate recommendations, identifies the preservation of public trust in the research enterprise as its guiding purpose.142 For example, Dr. Catherine D. DeAngelis, editor of the Journal of the American Medical Association, writes: 

Without [adequate conflicts-of-interest] policies and procedures, the academic institutions where most clinical research is based and their faculty members who perform the research are in grave danger of losing the support and respect of the public. Without this support and respect, trust in new medical discoveries and their applications will not be forthcoming. Without trust, medical research is doomed.143

138 See HHS, supra note 16.
139 See 1 NBAC, supra note 16, at 4.
140 See id.
141 See AAU, supra note 16, at 8 (recognizing the goal of improving transparency, trust, and integrity); AAMC, Individual COIs, supra note 16, at 1 (identifying the preservation of “public trust in clinical research while sustaining medical progress” as the task force’s objective in proposing reforms); see also U.S. General Accounting Office, Biomedical Research: HHS Direction Needed to Address Financial Conflicts of Interest 29 (Nov. 2001) (Report to the Ranking Minority Member, Subcommittee on Public Health, Committee on Health, Education, Labor, and Pensions, U.S. Senate) (recommending changes to conflicts of interest regulation and oversight “[t]o ensure the integrity of biomedical research and the protection of human research subjects”).
142 See, e.g., Miller, supra note 17, at 443 (stating that “[c]linical investigators should not realize substantial secondary income because they hold equity interests in the inventions they test on human subjects—to assume otherwise clouds not only scientific objectivity, but public trust as well”); see also Jordan J. Cohen, Trust Us to Make a Difference, Address at the Annual Meeting of the Association of American Medical Colleges (Oct. 29, 2000) (asserting that public trust in medical research is at stake if no action is taken to address financial conflicts of interest), available at http://www.aamc.org/newsroom/speeches/00aamp.06.htm; Korn, supra note 17, at 2235 (insisting that to preserve the public trust in medical research, a new and higher standard for managing financial conflicts of interest is needed).
143 DeAngelis, supra note 17, at 2238 (emphasis added).
Given the consensus that trust is necessary to sustain human subjects research, and that the goal of reforming the regulation of financial conflicts of interest among researchers and research institutions is to promote such trust, then we must consider how the goal of pursuing trust affects the way we regulate human subjects research.\textsuperscript{144} As discussed below, the effect is substantial, and it should change how we analyze reform proposals.

Of course, the references to trust cited above might amount to nothing more than rhetoric designed to mobilize political will in support of a change in policy. Nonetheless, they should not be disregarded. Today’s political rhetoric has the potential of becoming tomorrow’s legislative history pursuant to which policy will be interpreted and applied. Thus, it is important to understand its implications. Moreover, if it is possible for the law to promote trust in human subjects research despite commercial influences, then perhaps the call to promote trust in human subjects research through legal reform is more meaningful than we perceive; perhaps there is unappreciated merit underlying the rhetoric.

IV. PROMOTING A TRUSTWORTHY HUMAN SUBJECTS RESEARCH ENTERPRISE THROUGH LAW

Pursuing public trust in the human research enterprise significantly shapes the kind of regulatory reform that lawmakers can employ. How the pursuit of trust shapes the law’s effort to regulate financial conflicts of interest in human subjects research, and whether current reform proposals are likely to achieve the goal of public trust on which they claim to be based, is the focus of the remainder of this Article. After briefly describing the concepts of trust, trustworthiness, and fidelity and the role of the law in promoting them, this Article argues that any proposal to regulate financial conflicts of interest in research for the purpose of promoting fidelity to human subject safety must account for lessons from the study of the sociology of law. This Article then examines the kinds of regulation that will best exploit the law’s expressive

\textsuperscript{144} Those claiming that trust is essential to human subjects research join others who argue that trust is the essence of all medical enterprise. See, e.g., Mark A. Hall, \textit{Law, Medicine, and Trust}, 55 STAN. L. REV. 463, 470 (2002). It is possible that such claims are simply wrong and that medicine, including medical research, can be sustained by something less than trust. See Robert Gatter, \textit{Faith, Confidence & Health Care: Against a Policy of Promoting Trust-As-Faith Medicine} (manuscript on file with author). It is not necessary to resolve this question, however, to consider the regulatory implications of pursuing trust in medicine as a political goal. Thus, for the purposes of this Article, the mere fact that promoting trust in the human subjects research enterprise appears to be the goal of regulation is a sufficient reason to consider the implications of such a goal.
function and enhance the accountability of researchers and research institutions without sending message of distrust in the process. Based on these very general criteria, the current reform proposals described above appear justifiable but too narrow in scope. Moreover, the potential emphasis on detailed prohibitions could undermine the goal of promoting fidelity to human subject safety if it is overused in expanding the scope of regulation. Ultimately, the goal of promoting a human research enterprise that is loyal to the safety of human subjects points lawmakers toward categories of appropriate regulatory reforms and away from others, at least for as long as the goal of regulation remains the pursuit of fidelity.

A. Trust, Trustworthiness, and Fidelity in Human Subjects Research

Trust is a willingness by one to allow another (e.g., an individual, a corporation, a system for health care delivery) to “take care of something the trustee cares about, where such ‘caring for’ involves some exercise of discretionary powers.” It is comprised of a set of expectations of the trustor and a corresponding set of commitments by the trustee about taking care of the entrusted thing. Fidelity is one such expectation and commitment. As part of entrusting something to the care of another, the trustor expects the trustee to faithfully serve the trustor’s interests in the entrusted thing, and the trustee commits to act with such fidelity. This requires that the trustee place the trustor’s interests ahead of his or her own interests in caring for that which was entrusted.

In addition to those claiming that trust is essential to human subjects research, other commentators argue that trust, and its fidelity component, is central to health care delivery generally. Whether trust is essential to sustain medical relationships in hospitals, clinics, and medical schools is undeniably critical. Nonetheless, a large number of insurers, and other potential payors for the well-being of the insured, supports proposals to augment and strengthen the medical research enterprise despite opportunities for radical reform.

Although the exact degree of trust, analogous to the expertise, is complicated by the nature of the understanding, it is clear that, in general, higher levels of trust are more likely to be achieved. In a research setting, the objective of scientific knowledge is gained through trust. The ethical core of the trust is the recognition of the vulnerability created by the situation (recognizing the importance of the medical system, butclaiming it is increased).

See Gatter, supra note 169, and consider how sufficient trust in the medical system results in higher levels of trust among patients and health care providers. In addition, the ethical core of trust is the recognition of the vulnerability created by the situation (recognizing the importance of the medical system, but claiming it is increased).

See Gatter, supra note 169, and consider how sufficient trust in the medical system results in higher levels of trust among patients and health care providers. In addition, the ethical core of trust is the recognition of the vulnerability created by the situation (recognizing the importance of the medical system, but claiming it is increased).

See id. at 441 (recognizing the vulnerability of fidelity in patients, but claiming that the benefit it provides outweighs the risk).
medical relationships and the health care delivery system is debatable. Nonetheless, a large segment of the public desires and expects that physicians, insurers, and other players in the health care enterprise remain loyal to the well-being of the individuals they serve. This widely held expectation supports proposals to regulate financial conflicts of interest so as to assure that the medical research enterprise adequately protects human subjects safety despite opportunities for financial gain.

Although the expectation of fidelity to the safety of human subjects is analogous to the expectation of loyalty to the medical needs of patients, it is complicated by the purpose of human subjects research to advance scientific understanding. In a medical treatment setting, a patient can legitimately expect that, in general, his or her physician will serve the patient's health interests. In a research setting, however, this expectation is tempered by the primary objective of scientific discovery. In general, the researcher's loyalty is first
to the research protocol, and serving the therapeutic interests of any human subject is secondary.\textsuperscript{152}

Nonetheless, the public may expect researchers and research institutions to protect human subjects from risks of harm that are not necessary to advancing scientific understanding.\textsuperscript{153} This is the trust that was allegedly betrayed in the Gelsinger and Hutchinson Cancer Research Center cases\textsuperscript{154}—an expectation among human subjects and the general public that researchers and research institutions remain loyal to protecting the safety of human subjects even at the expense of missing out on opportunities for financial gain. Such a standard of fidelity to human subjects does not demand that the research enterprise place the interests of human subjects over the interests of science; rather, it demands only that human subject safety take priority over the financial interests of researchers and their institutions.

This expectation seems all the more legitimate given the official role of researchers and research institutions in protecting human subjects from research risks.\textsuperscript{155} In order to adequately protect human subjects from research risks, researchers and research institutions must zealously guard the objectivity with which they make judgments about research risks.

Accordingly, proposals to reform the management of financial conflicts of interest in human subjects research in the name of promoting trust are actually proposals to promote the fidelity of the research enterprise to human subjects safety despite financial opportunities created by the new market economy in research. Moreover, these proposals seek to improve trust in the human subjects research enterprise by increasing the trustworthiness of that enterprise to protect human subject safety. Trustworthiness is the state of having the characteristics of one who can be trusted, characteristics that make one appear capable of making and keeping commitments of competent and loyal service of the interests of another.\textsuperscript{156} As such, it is a condition of trust; trustworthiness

\textsuperscript{152} See supra note 144 and accompanying text describing federal regulations that prohibit IRBs from allowing human subjects research to be conducted where risks to human subjects are not justified by the pursuit of medical knowledge. See also Beauchamp & Childress, supra note 56, at 441 ("Ethically justified research must satisfy several conditions, including the pursuit of knowledge . . . ").

\textsuperscript{153} See supra notes 6-11, 107-12 and accompanying text.

\textsuperscript{154} See supra notes 99-102 and accompanying text.

\textsuperscript{155} See Hardin, supra note 145, at 20-22 (distinguishing trustworthiness from trust).

\textsuperscript{156} See supra note 161 and accompanying text.
begets trust. Thus, by promoting greater fidelity among researchers and research institutions to the safety of human subjects, reform proposals seek to sustain public trust in medical research by first improving the trustworthiness of the research enterprise.

B. The Role of Law in Promoting Trustworthiness

It is not immediately obvious that the law has any role in promoting fidelity or other components of trustworthiness among those it regulates. Indeed, some might interpret the fact that one's conduct must be regulated by the law as conclusive evidence that one is untrustworthy.

Yet, the law can promote the trustworthiness of research enterprise to protect human subjects from the risks of harm posed by financial conflicts of interest. As demonstrated below, scholars from a variety of fields have studied the concept of promoting social norms—such as fidelity—through law, and their work provides a basis for this claim. The law and norms movement teaches that the law is capable of promoting a particular norm by articulating and disseminating that norm (the law's expressive function) and by punishing conduct that violates the norm (the law's accountability function). These two functions steer behavior. The expressive function does so by exploiting any predisposition of the targets of regulation to abide by the norm expressed by the law (i.e., the spirit of the law). The accountability function does so by appealing to the interest of remaining regulatory targets to avoid being punished.

157 See id. at 31-32 (asserting that "trustworthiness commonly begets trust"); see also Russell Hardin, Conceptions and Explanations of Trust, in TRUST IN SOCIETY 3, 17 (2001) (stating that “if something conceptually entails or causes trustworthiness, then indirectly it tends to cause trust”).

158 See infra notes 261-66 and accompanying text.


160 See infra Part IV.C.1; see also Wilten Van Der Burg, The Expressive and Communicative Functions of Law, Especially with Regard to Moral Issues, 20 L. & PHILO. 31, 41-52 (2001) (arguing that the law articulates and communicates common values as a starting place for further debate in liberal society).

161 See infra Part IV.D.1.
The law's effort to promote a social norm also can backfire. Despite intending to promote respect for a norm, the law can undermine the norm and, instead, create an environment in which regulatory targets comply with the law only as needed to avoid punishment and otherwise interpret the law to serve their own interests (i.e., honoring the letter and ignoring the spirit of the law). This can occur when lawmakers adopt a command-and-control regulatory style by attempting to comprehensively control an area of conduct.\textsuperscript{162} Such a strategy can diminish respect for the normative spirit of a law by squelching the law's normative message under the weight of dense regulation. Additionally, the command-and-control regulatory method can backfire by sending a message that regulatory targets cannot be trusted to abide by the spirit of the law and causing regulatory targets to live down to the implied expectations of that message.\textsuperscript{163} I refer to this as the juridifying effect of law, which, as discussed below, limits the power of the law to promote a norm through its expressive and accountability functions.\textsuperscript{164}

If the law is to promote fidelity of the research enterprise to the safety of human subjects, it must create an environment in which researchers and research institutions are likely to voluntarily conform their conduct to the spirit underlying regulation in the field. Accordingly, any plan for regulating financial conflicts of interest in human subjects research must exploit the expressive and accountability functions of the law while avoiding the law's juridifying potential. As established below, the leading proposals for regulating financial conflicts of interest in human subjects research (targeted and general prohibitions, disclosure, and continued institutional enforcement) are consistent with a fidelity-promoting regulatory plan, but, even when combined together, they are insufficient to achieve that goal because they fail to completely express a norm of fidelity to the safety of human subjects despite financial temptations of the market. Additionally, I caution below against a regulatory regime that primarily relies on detailed prohibitions to more broadly express the norm of fidelity for fear that the law might unintentionally adopt a command-and-control regulatory regime, which could undermine rather than promote fidelity of researchers and research institutions to human subject safety.

\textsuperscript{162} See infra notes 254-66 and accompanying text.
\textsuperscript{163} See infra notes 266-69 and accompanying text.
\textsuperscript{164} See infra notes 241-69 and accompanying text.

C. Expressing the Law's Fidelity

If the law is to express its fidelity to the safety of human subjects, it must create a system of regulation that is not only applied broadly to those who are expected to comply with it, but is also understood and expressed as complying with the law's normative spirit. As analyzed above, the law's expressive potential is limited if it is not adequately expressed to those it is intended to regulate. Fidelity, as I argue, requires an understanding and express expression of the message the law is intended to convey.

1. The Expression of Juridifying

Human Subject

In addition to its direct effect, the fidelity of the law can be indirectly affected by its expressive potential. If the law seeks to endorse or disapprove of certain institutional conduct,\textsuperscript{165} it is likely to receive or be interpreted as the law of the land and indirectly affect the practices of those who are regulated.

The law has multiple purposes, many of which are intended to achieve fidelity to the safety of human subjects. If the law is designed to regulate financial conflicts of interest in human subjects research, it is likely to achieve that goal to the extent that it is understood and expressed as expressing the law's fidelity to the safety of human subjects. If, however, the law is designed to regulate financial conflicts of interest in human subjects research in a manner that is not understood and expressed as expressing the law's fidelity to the safety of human subjects, it is unlikely to achieve that goal.

\textsuperscript{165} See supra Part IV.B.2.A, using its power to hold higher value than that of fidelity of human subject research.
\textsuperscript{166} See supra Part IV.B.2.A, using its power to hold higher value than that of fidelity of human subject research.
\textsuperscript{167} See supra Part IV.B.2.A, using its power to hold higher value than that of fidelity of human subject research.
\textsuperscript{168} See supra Part IV.B.2.A, using its power to hold higher value than that of fidelity of human subject research.
human backfire. Despite this, the law must also comply with the letter of the law, interpreting the law to serve the purpose of its letter, the spirit of the law.

C. Expressing the Norm of Fidelity to Human Subject Safety

If the law is to promote trust in the fidelity of researchers and research institutions to the safety of human subjects despite financial opportunities created by research discoveries, it must express this message clearly and broadly to those involved in the research enterprise. By exploiting the expressive function of the law, regulators increase the prospect of gaining compliance with not only the letter of the law, but its underlying normative spirit. As analyzed below, current proposals, if made into law, would not adequately express the norm of fidelity to human subject safety. While they are generally consistent with such a normative message, they fall short of expressing the message broadly enough.

1. The Expressive Function of Law and Clarifying the Law's Message on Human Subject Safety

In addition to directly regulating behavior, the law can regulate behavior indirectly by affecting norms that also regulate behavior. Such regulation derives from the law's expressive function.

The law has moral weight that can be thrown behind a norm that society seeks to endorse or that can be expressed in opposition to a norm that society seeks to condemn. So, for example, if a new law forbids “smoking on airplanes, this law is likely to reinforce norms that independently deter smoking. Refraining from smoking gains the added attraction of being law-abiding behavior.”

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165 See infra Part IV.D and accompanying text for a discussion of how the law regulates conduct directly using its power to hold individuals accountable for violations of law.

166 See Lawrence Lessig, The New Chicago School, 27 J. LEGAL STUD. 661, 666 (1998) (according to the New Chicago School of thought, “law not only regulates behavior directly, but also regulates behavior indirectly, by regulating these other modalities of regulation [including norms] directly”); McAdams, supra note 159, at 349 (“[O]f greatest interest [is that] the law can influence the norm.”); Cass R. Sunstein, On the Expressive Function of Law, 144 U. PA. L. REV. 2021, 2024 (1996) (describing the expressive function of law as the function of law in ‘making statements’ as opposed to controlling behavior directly).

167 See McAdams, supra note 159, at 398 (stating that “law can strengthen esteem norms by expressing them and, further, that norms help to explain how the ‘expressive’ function of law works”); Sunstein, supra note 166, at 2024-25 (characterizing the expressive function of law as concerning “how legal ‘statements’ might be designed to change social norms”).

168 See Sunstein, supra note 166, at 2031 (stating that the law has “moral weight” that can be used to “convince” people to adopt or reject a particular norm). Another description of this phenomenon is that abiding by the law is a norm in and of itself that can be deployed in support of or in opposition to another norm. See Rai, supra note 26, at 84 n.38 (noting that “the act of abiding by the law itself reflects a norm” that can be used to make compliance with another norm more or less attractive).

169 Rai, supra note 26, at 84.
other words, when a norm for abiding by the law exists, this norm can be used to bolster or weaken a target norm. Yet, this does not explain why some laws are more successful than others in affecting norms.170 After all, "some people feel no guilt for failing to obey a law they think is unwise or unjust."171 So, while some may follow the law based on a moral duty to do so, this does not fully explain how the expressive function of the law affects norms.

A more complete description of law's expressive function recognizes that the law affects norms by publicly endorsing or clarifying particular norms or both.172 Under this conception, individuals comply with norms to avoid the social cost of violating them, including a loss of esteem.173 First, the law helps to create or secure a preferred norm in part by publicly announcing that a significant degree of consensus exists in society in support of that norm,174 which in turn raises the likelihood that violating the norm would in fact result in a loss of esteem.

There is empirical support for this claim. For example, data about income tax compliance and evasion shows that compliance increases following widely disseminated statements by the government that a high degree of compliance exists, and evasion increases when penalties for evasion and the audit rate are increased.175 The data is consistent with the law's signaling the existence or nonexistence of a social consensus for the norm of paying one's taxes. When the law signals that others are complying and thus that there is a consensus in support of paying one's taxes, the norm is reinforced and compliance increases. In contrast, an increase in penalties and audits signals that there may not be a consensus about paying one's taxes, and, as a result, the norm weakens and tax evasion increases.

170 See MAdams, supra note 159, at 398.
171 Id.
172 See id. at 400-08.
173 See id. at 355-65 (arguing that individuals seek the esteem of others and that a norm arises when the cost of losing or not gaining the esteem of others exceeds the cost of conducting oneself in a manner that is likely to result in obtaining or avoiding the loss of the esteem of others). This conception of what motivates human behavior can be reconciled with claims that humans reciprocate—cooperative, selfless behavior by one leads to cooperative, selfless behavior by others, while selfish behavior or pushing one's advantage leads to similar behavior by others. See Dan Kahan, Trust, Collective Action, and Law, 81 B.U. L. REV. 333 (2001) (providing theoretical and empirical support for the claim that human conduct is motivated by how one perceives others to be acting).
174 See MAdams, supra note 159, at 402-03.
175 See Kahan, supra note 173, at 342-43 (summarizing the aggregate results of several studies, including a study sponsored by the Minnesota Department of Revenue in which individuals were informed of high tax compliance rates).
Second, the law can affect an abstract norm by making it more concrete. For example, a requirement that a physician report suspected child abuse might clarify an abstract norm about being a “good doctor.”176 Similarly, the law can clarify confusion about two potentially conflicting norms. Again, child abuse reporting laws for physicians are a good example. The abstract notion of being a good doctor includes at least two norms: (1) being a patient’s advocate by keeping confidential information learned in the doctor-patient relationship, and (2) protecting the public’s health and safety. Where a physician learns of potential child abuse in the course of treating a patient, these two norms come into conflict and create confusion. Laws requiring physicians to report suspected child abuse to authorities clarify the relationship between the two norms by declaring that the norm of protecting public health and safety takes precedence over the norm of patient advocacy through confidentiality.

The law’s ability to clarify conflicting norms is particularly relevant to understanding how to harness the expressive function of law in the case of financial conflicts of interest in human subjects research. Current law and practice in human subjects research send a mixed normative message to researchers and institutions about preserving their objectivity in matters affecting human subject safety. On the one hand, they recognize a duty among researchers and research institutions to protect the safety of human subjects, as evidenced by the federal human subjects research regulations described above, as well as by medical research codes and practices that

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176 This is a derivation of McAdam’s example that a law requiring car seats for children clarifies what it means to be a good parent. See McAdam, supra note 159, at 407-08.
177 The norm of protecting human subject safety implies a norm of objectivity in decision making that affects human subject safety. A researcher with a significant financial stake in the success of a research project is more likely to make professional judgments that result in exposing human subjects to unnecessary risks of harm than a researcher without such a financial interest. Similarly, institutional judgments about the propriety of a research protocol, about the seriousness of an adverse event in an ongoing study, or about the best way to manage a researcher’s conflict of interest can also be biased by a significant financial interest the institution might have in the success of a research project. The Gelshiger and Hutchinson cases provide anecdotal evidence of how such financial conflicts of interests undermine professional and institutional judgments that then diminish human subject safety. See supra notes 103-06 and accompanying text.
178 See supra notes 103-06.
179 For example, the Nuremberg Code provides that experiments on humans “should be so conducted as to avoid all unnecessary physical and mental suffering and injury,” and “[p]roper preparations should be made . . . to protect the experimental subject against even remote possibilities of injury, disability, or death.” Nuremberg Code, available at http://ohsr.od.nih.gov/nuremberg.php3. The Nuremberg Code was created in 1948 as part of the judgment in the Nuremberg medical trial of Nazi physicians. See Faden & Beauchamp, supra note 135, at 153; see also ADVISORY COMMITTEE ON HUMAN RADIATION EXPERIMENTS, FINAL REPORT 83-84, 131-50 (1995). It is recognized as one of the earliest statements on research ethics.
significantly pre-date those laws. On the other hand, federal technology transfer policy has contributed to the rise of a new norm to play one's part in the efficient production of commercial medical products, as evidenced by increased patent filings and licensing arrangements among academic researchers and their institutions and by the advent of academic technology transfer offices, faculty start-ups, and efforts to compete with CROs for private research funding.

Thus, to harness the expressive function of law, lawmakers must express not only that human subject safety is more important than serving one's own financial interests, but also that human subject safety is more important than speeding the production of commercial medical products. Rather than expressing a new norm, the law must express how a conflict between two established norms should be resolved.

2. Assessing the Message Expressed in Current Reform Proposals

Current proposals for reforming the regulation of financial conflicts of interest in human subjects research would not fully exploit the expressive function of the law because they only partially express that researchers and research institutions must protect human subjects from harm despite the politically endorsed commercialization of research. Whether the proposal is to prohibit researchers and research institutions from owning equity in research sponsors, require the disclosure of nonprohibited financial conflicts of interest,

Similarly, the Helsinki Declaration makes researchers responsible for the safety of human subjects above all other concerns. It states that "[c]oncern for the interests of the subject must always prevail over the interests of science and society" whether the experiment is therapeutic or nontherapeutic, and that "[t]he responsibility for the human subject must always rest with a medically qualified person and never rest on the subject of the research, even though the subject has given his or her consent." Helsinki Declaration, para. 5, 3 (1969), available at http://ohsr.od.nih.gov/helsinki.php3. Likewise, the Belmont Report requires that the risks of harm to human subjects be minimized and "justified by the expected benefits of research." Guidelines for the Conduct of Research Involving Human Subjects at the National Institutes of Health, app. 2, para. 2 (1995), available at http://ohsr.od.nih.gov/guidelines.php3#app2. The norm lives on in current statements of research ethics. Members of the Association of Clinical Research Professionals, for example, pledge to "[h]old the safety and welfare of human subjects as [their] highest goal." Association of Clinical Research Professionals, Code of Ethics (2001), available at http://www.acrproet.org/ethics/index.html.

See ADVISORY COMMITTEE ON HUMAN RADIATION EXPERIMENTS, supra note 179, at 130-70 (reviewing evidence of post-World War II standards and practices for human experimentation). The Advisory Committee considered much more than the Nuremberg medical trials and the Nuremberg Code that resulted from them. For example, Otto E. Guttentag, a University of California researcher, proposed that two physicians serve each human subject in a therapeutic experiment—one would bear the responsibility for the human subject's interests as a patient and the other would conduct the research with the intent to advance medical knowledge. See id. at 140-41.

See supra notes 30-54 and accompanying text.

or establish a relationship of financial ties. This problem is not as broad as the stock or stock option prohibitions were in those cases. Researcher prohi- bitions are just as important as are the related fiduciary rules, which protect the research subject's interests from harm. This conflict of loyalty to human subjects and the financial conflicts of interest are already rising in the research community. This silence has contributed to expressing a norm for the law to address.

Because prohibitions alone do not express the norm, society is prepared for additional norms. When these prohibitions are supplemented by norms to fill the gap, they send a more complete message on the character of the research.

See, e.g., Angell, supra note 182, for a rebuttable presumption a person may have equity, royalty, lease, or other interest in the researchers holding equity in the research institutions or speaking arrangements with research institutions. 184 AAMC's Task Force on the Finances of Research institutions appended outdated information and institutions, see supra notes 30-54 and accompanying text.
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or establish a rebuttable presumption against conducting human subjects research where a researcher or institution has a financial interests in the research, there are holes in the message of fidelity.

This problem is particularly true of proposals taking aim at specific kinds of financial ties. The message of fidelity to human subject safety will only be as broad as the scope of targeted prohibitions imposed. If all such proposed prohibitions were combined, they would forbid researchers from (1) owning stock or stock options in firms that sponsor the research being conducted by those researchers or in firms that have a significant commercial stake in outcome of such research, (2) holding a leadership position in such a firm, (3) receiving royalties or having the right to future royalties from such an interested firm, and (4) receiving payments from such firms for anything other than for the reasonable costs of conducting the research. Each of these prohibitions is justifiable and necessary to a regulatory scheme expressing that fidelity to human subject safety is paramount. Yet, even when combined, they do not fully express that message. Most notably, they do not address the financial conflict of interest that could be created when researchers and their institutions rely on private industry to fund a significant portion of their human subjects research.

This silence highlights the limitations of targeted prohibitions as a tool for expressing a norm of fidelity to human subject safety to the research enterprise. Because prohibitions ban particular behavior, they only apply to conduct that society is prepared to condemn. Accordingly, conduct that is controversial but not condemnable cannot be usefully regulated with a prohibition. Unless prohibitions are supplemented with some other kind of regulation, any message they send may be distorted.

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182 See, e.g., Angell, supra note 17.
183 See, e.g., AAMC, Individual COIs, supra note 16 (recommending that research institutions adopt a rebuttable presumption against allowing researchers to conduct human subjects studies when the researchers have equity, royalty, leadership, or other payment relationships with private firms that have a commercial interest in the researchers' studies); Angell, supra note 17, at 1518 (recommending a strict prohibition against researchers holding equity in companies that have a commercial interest in their work and having consulting or speaking arrangements with such companies to the extent those relationships are used as a pretext for paying researchers for their research); Lo et al., supra note 17, at 1619 (recommending a strict prohibition against researchers owning equity in companies that have a commercial interest in the outcome of the researchers' studies).
184 AAMC's Task Force attempts to address the limitations of prohibitions by recommending that research institutions apply a presumption against allowing human subjects research to be conducted where individual or institutional conflicts of interest exist that can be rebutted by compelling circumstances. See AAMC, Individual COIs, supra note 16, at 7; AAMC, Institutional COIs, supra note 16, at 10-11.
Given that prohibitions cannot address conflicts of interest in human subjects research that society is not prepared to ban, what message does the law send when it fails to express any message beyond the limitations of a targeted prohibition? It likely signals that, except for particularly egregious conflicts of interest that are expressly prohibited, it is business as usual. In other words, the confusion created by the normative clash of promoting efficiency through commercialization and protecting the safety of human subjects goes unresolved except in clear cases where prohibitions are justified.

AAMC’s proposal more clearly expresses a message of fidelity than do proposals for targeted prohibitions. AAMC suggests that institutions presume to prohibit themselves and their affiliated researchers from conducting human subjects research in which they or their researchers have significant financial interests. Such a generalized standard of fidelity is an improvement over targeted prohibitions because it can be applied to financial conflicts of interest not addressed in targeted prohibitions. Yet, the application of this standard—and thus its expressive value—is limited in scope.

Like proposals for targeted prohibitions, AAMC’s proposal does not apply to the conflict of interest created when researchers and research institutions rely on private corporations to fund a significant portion of human subjects research they conduct. The proposal specifically defines financial conflicts of interest for researchers to exclude research funding arrangements with commercially interested companies. Similarly, industry research sponsorship does not appear at all in AAMC’s list of circumstances that give rise to institutional conflicts of interest. Since the presumptive prohibition

185 See AAMC, Individual COIs, supra note 16; AAMC, Institutional COIs, supra note 16. AAU recommended a similar presumption as well. See AAU, supra note 16.

186 See AAMC, Individual COIs, supra note 16, at 13-14 (“Significant financial interests in research do not include ... [p]ayments to the institution, or via the institution to the individual, that are directly related to reasonable costs incurred in the conduct of research as specified in the research agreement(s) between the sponsor and the institution.”).

187 AAMC’s Task Force recommended that institutions “pay particular attention” to substantial, philanthropic “gifts” from potential commercial research sponsors. See AAMC, Institutional COIs, supra note 16, at 8. It is unlikely, however, that the Task Force intended the term “gifts” to refer to commercial research sponsorship. First, the recommendation refers to gifts from “potential” commercial sponsors of research rather than from actual donors, id., suggesting that the “gift” is distinct from funding for research. Second, in its guidelines on individual financial conflicts of interest, the same Task Force did not use the term “gifts” to refer to commercial research sponsorship. Instead, it used the phrase “payments ... directly related to reasonable costs incurred in the conduct of research.” AAMC, Individual COIs, supra note 16, at 15. This language suggests that the Task Force intended “gifts” to refer to something other than commercial research sponsorship.

188 AAMC recommends facto raise an institutional
191 The AAMC’s research and the administrative in research does not address managed, will be concerned comes closest to recognizing one member with no tes may proceed with human
190 See supra note 49 a.
189 See supra note 49 a.
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188 AAMC recommends that institutions apply the rebuttable presumption only to circumstances that “ipso facto” raise an institutional conflict of interest concern. See AAMC, Institutional COIs, supra note 16, at 10-11. Thus, the rebuttable presumption does not apply to other circumstances that might, but do not necessarily, raise such a concern, including substantial philanthropic gifts made to an institution by a potential commercial research sponsor. Id. at 8.

189 See supra note 49 and accompanying text.

190 The AAMC’s recommendations to build a firewall between the administration of human subjects research and the administration of technology transfer and to internally monitor institutional financial interests in research does not address the fact that all parts of a research institution, even when they are independently managed, will be concerned with the continued financing of its research activities. AAMC’s Task Force comes closest to recognizing this reality when it recommends that internal oversight committees have at least one member with no ties to the institution, and then, when internal committees determine that an institution may proceed with human subjects research despite an institutional conflict of interest, “the institution should consider the desirability of contracting with an external IRB to provide a second level of review.” See AAMC, Institutional COIs, supra note 16, at 9, 12.

191 See generally id.; AAU, supra note 16.
making within those departments. Decisionmaking necessarily converges at the highest levels of institutional administration. Furthermore, it is naive to think that one institutionally unaffiliated member of a committee otherwise comprised of institutional insiders will adequately offset a committee’s bias to serve institutional interests. In its defense, AAMC proposes that institutions rely on external monitoring committees when institutions conduct human subjects research in which the institution has a financial interest. Still, this recommendation applies only after the institution’s internal committee has determined that the institution may house such research. In other words, the point at which AAMC proposes outside review is too far down the research-approval pipeline to prevent the conflict of interest. This waters down the fidelity message delivered by such reforms, and it runs the risk that researchers and research institutions perceive the institutional process as simply a bureaucratic hoop through which to jump. This perception of the IRB process is common because it is similarly structured.\textsuperscript{192}

It is possible—though unlikely—that disclosure laws could fill the expressive void identified above. Most reform proposals would require that all nonprohibited financial conflicts of interest related to a human subjects research protocol be disclosed to prospective human subjects as part of the informed consent process.\textsuperscript{193} Whether such disclosure rules would more clearly express the norm of fidelity to human subjects safety, however, is unclear. On the one hand, mandatory disclosure expresses to the research enterprise that respect for human subjects takes priority over commercialism. It signals that researchers and research institutions must be honest with prospective human subjects even at the risk of discouraging individuals from volunteering as human subjects.\textsuperscript{194} On the other hand, mandatory disclosure also suggests that providers, institutions, are receiving the “caution, beware” message.

Moreover, the mandatory disclosures may turn on the regulatory regime that relies on targeted mandatory disclosure for a regime that more broadly requires safety than possible disclosure may be permitted.

In the end, property interests are expressive power of the regulatory regime.

Additionally, the normative potential for assuring greater objectivity in the conflicts of interest, financial conflicts of interest committee, (2) that are institutionalized, and (3) without receiving noninformed, institutionally unaffiliated

Still other options to the law action against the financial conflicts of interest express the scope of

\textsuperscript{192} “Recently IRBs have been criticized for lacking expertise in ethical issues, paying too much attention to consent forms rather than study design, delaying important research because of bureaucratic requirements, and missing serious ethical lapses.” Bernard Lo, Confidentiality of Prescription Drug Information in the Era of Computers and Managed Care, 33 IND. L. REV. 937, 950 (2000) (citing OFFICE OF EXTRAMURAL RESEARCH, NAT’L INST. OF HEALTH, EVALUATION OF NIH IMPLEMENTATION OF SECTION 491 OF THE PUBLIC HEALTH SERVICE ACT, MANDATING A PROGRAM OF PROTECTION FOR RESEARCH SUBJECTS (1998); GAO, CONTINUED VIGILANCE CRITICAL TO PROTECTING HUMAN SUBJECTS 17-23 (1998)).

\textsuperscript{193} See supra notes 130-34 and accompanying text.

\textsuperscript{194} Interestingly, a recent study of the effect of the disclosure of managed care incentives among physicians to their patients found that patient trust in their physicians increased following such disclosure. See Mark A. Hall et al., How Disclosing HMO Physician Incentives Affects Trust, HEALTH AFF., Mar.-Apr. 2002, at 200-02, 204-05. This study was conducted in a medical treatment setting, and it surveyed individuals with both poor health and good health. Accordingly, its results might not predict the effect of similar disclosure in a human subjects research setting where subjects are often seriously ill and may perceive themselves as more vulnerable to abuse.

\textsuperscript{195} See supra note 127.
essarily converges at all. Furthermore, it is naive to assume that committee’s bias to overlook obvious errors that institutions conduct human research is in another, less visible interest. Still, this too is a valid concern which has remained idly ignored. In other words, the more we push disclosure down the research hierarchy, the more it waters down the moral force of the message that it can serve as a deterrent to unethical behavior. It is only a matter of time until any rise in the number of disclosures is neutralized by the response of the IRB process.

Laws could fill the void left by an IRB requirement in some cases but not in all. Laws, for instance, could require that all institutions that conduct research on human subjects as part of the work of their jobs have mandatory disclosure rules. This would serve to increase the number of times that the ethical nature of a study is considered, but it would come at a cost. This is because mandatory disclosure would not be the final word on the matter. It would still need to be reviewed by an IRB committee, which makes the practicality of such a requirement questionable. Moreover, mandatory laws would not change the way that research is conducted. They would only add an extra layer of bureaucracy that would need to be dealt with. The result would be that research would become less efficient, and more expensive, which would ultimately lead to a decrease in the amount of research that is conducted.

In the end, proposed reforms must be supplemented to fully harness the expressive power of the law to promote the norm of fidelity to human subject safety. While this analysis does not point to any one solution, it highlights the key characteristic of any supplemental reform. It must generally express a message of fidelity to human subjects research, and it should be sufficiently broad to encompass the potential financial conflict of interest posed by private research sponsorship. Despite their shortcomings, the proposals by AAMC and AAU offer the most promise because they employ a presumptive prohibition that permits a more general and broad expression of fidelity than do targeted prohibitions.

Additionally, the law can more completely express the fidelity norm by assuring greater objectivity in the institutional processes that manage financial conflicts of interest. For example, regulators might mandate that (1) all financial conflicts of interest be reviewed and approved by an institutional committee, (2) that the majority of committee members be unaffiliated with the institution, and (3) that no financial conflict of interest can be approved without receiving majority approval by both the committee as a whole and the institutionally unaffiliated members of the committee.

Still other options exist. For example, the law could recognize a common law action against researchers and research institutions for failing to adequately protect the safety of human subjects from risks posed by financial conflicts of interest. Such a broad common law standard would more clearly express the scope of public expectation of fidelity of the research enterprise to

also suggests that prospective human subjects, and not researchers or research institutions, are responsible for the safety of human subjects—a “buyer beware” message.

Moreover, the message expressed by a mandatory disclosure requirement may turn on the regulatory context in which it exists. In a regulatory scheme that relies on targeted prohibitions and sends a limited message of fidelity to human subject safety, researchers and research institutions may perceive mandatory disclosure as a warning to human subjects; but, in a regulatory regime that more broadly expresses a message of fidelity to human subject safety than possible through targeted prohibitions, the same rule of mandatory disclosure may be perceived as requiring honesty.

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195 See supra note 127 and accompanying text.
human subject safety. Yet another option is to limit the extent to which institutional and individual research budgets may be derived from private research sponsorship, an option that could then be combined with other reform proposals.

The point of this analysis is not to argue for any particular supplemental reform, but rather to recognize the consequence of attempting to regulate financial conflicts of interest for the purpose of promoting fidelity to human subject safety within the medical research enterprise. Such a regulatory goal necessarily requires lawmakers to exploit the expressive function of the law in order to achieve that goal, and to do so more thoroughly than do current reform proposals.

D. Holding Researchers and Research Institutions Accountable for Violating the Norm of Fidelity to Human Subject Safety

In addition to exploiting the expressive function of law, any strategy for promoting fidelity to the safety of human subjects among researchers and research institutions must also take advantage of the law’s power to hold accountable those who violate the law’s requirements. As described below, such accountability encourages compliance, which can strengthen the law’s normative message. While the proposed reforms create standards that have the potential to improve accountability, those standards are unlikely to result in greater accountability because injured human subjects will be hard pressed to meet the burdens of proof placed on them under available causes of action. Most notably, injured human subjects will have difficulty proving that a financial conflict of interest affected the conduct of a researcher or institution, which in turn led to the subject’s injury. Thus, despite proposed new standards, accountability will not improve without a cause of action that is likely to result in liability.

1. The Law’s Power to Promote Trustworthiness Through Accountability

The power of the law to promote trustworthiness is not limited to using its expressive function to endorse a norm. The law can also steer conduct more directly toward trustworthy behavior through its power to hold accountable

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196 See infra Part IV.D for an analysis of how standards create common law duties. However, those standards may not be enforceable because of the difficulty of proving causation.
197 For example, regulators might require placing an absolute dollar or percentage-based cap on corporate funding of human subjects research for both individual researchers and institutions.

2. New Standards

Proposals to promote accountability that have a common element in their proposals to require researchers to protect human subjects, help create standards that place financial limits on research, and creating standards will:

Current regulatory measures that prohibit researchers from having financial conflicts of interest associated with the conflict of interest policies generally

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those who violate legal duties to maintain patient confidentiality or expressing the normative message by threatening punishment. In other words, the law’s normative message can be expressed by a law’s normative value by threatening punishment.

Legal accountability is easier to enforce when a law’s normative message can be expressed by a law’s normative value by threatening punishment. In other words, the law’s normative message can be expressed by a law’s normative value by threatening punishment.
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Suitable for Violating

The law’s power of accountability supplements its expressive function by reaching those whose conduct might not be affected by a normative message expressed by a law but who will comply with that law in order to avoid punishment. In other words, while the expressive function of the law attempts to inspire compliance with the normative spirit underlying a law,^{196} the power of accountability attempts to gain compliance with at least the letter of the law by threatening punishment for noncompliance.

Legal accountability also complements the expressive function of law by punishing those who violate it, reinforcing the law’s normative message. Conversely, a lack of accountability for violation of a legal rule can diminish a law’s normative message. A legal rule may be perceived as unimportant, and thus more easily ignored, if those who violate it are not held accountable for doing so.

2. New Standards and the Potential for Greater Accountability

Proposals to prohibit financial relationships between researchers and firms that have a commercial interest in such researchers’ work, along with proposals to require disclosure of conflicts of interest to prospective human subjects, help create accountability for researchers and research institutions that place financial gain ahead of human subject safety. They do so by creating standards where almost no standards had previously existed.

Current regulations and the policies of most research institutions do not prohibit researchers or research institutions from having financial conflicts of interest associated with human subjects research they conduct.^{197} Instead, the

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^{196} See supra note 173 and accompanying text for a description of the theory that individuals are essen-

^{197} See supra notes 98-102 and accompanying text for a description of current regulations related to
financial conflicts of interest in clinical research; see also Harrington, supra note 17, at 799-811 (descri-
doing the conflict of interest policies of several research universities); Lo et al., supra note 17, at 1619 (conclud-

end of note 197)
law generally requires only that personal conflicts of interests be reported to
the research institution and that the research institution review and manage the
conflict at its discretion. Accordingly, there is little legal incentive for research
institutions to take a hard line on conflicts of interests.

This lack of incentive may explain why the U.S. General Accounting
Office found that some research institutions never require divestiture to resolve
a financial conflict of interest. The study found that, among four research
institutions, there were 111 investigators with significant financial conflicts of
interest in one year.200 Of these, three investigators voluntarily divested; and
none were told to divest by their institutions.201 It is possible that none of the
financial interests at issue in those 111 cases called for divestiture or that the
experience of those four institutions that year is not representative. On the
other hand, it may be that, absent a more rigorous standard than “review-and-
manage-at-your-discretion,” research institutions are acting irresponsibly.

The latter possibility seems more likely given the competitive environment
in which research institutions find themselves. Public funding for research is
limited, and private financial arrangements between biotechnology firms and
researchers and between biotechnology firms and research institutions are
customary.202 A research institution that does not accommodate financial
conflicts of interests at least to the extent necessary to meet its operating
expenses will find it difficult to survive. Moreover, competition among
research universities for productive researchers also provides an incentive for
institutions to loosen their conflicts of interest standards. A research institution
that allows researchers to conduct (and potentially profit from) clinical trials in
which the researcher has a financial conflict of interest is more likely to attract
and retain that researcher as an employee.203

Thus, by creating standards—through prohibitions and disclosure
requirements—the law can impose a higher level of accountability than
research institutions are otherwise willing to enforce. Indeed, research
institutions might even welcome such legal standards because they eliminate

that, based on a sampling of research institution policies on conflicts of interest, institutions generally do not
require more than the disclosure and management required by law).
201 See id.
202 See supra note 49 and accompanying text.
203 See Angell, supra note 17, at 1516 (noting that Harvard Medical School had been planning to “soften”
its conflicts of interest guidelines “to prevent the loss of star faculty members to other schools”).

the incentive to lose federal funding with other institutions.

In addition to setting standards under institutional policy, the law mandates disclosure through enforcement through the
federal government. In a recent case, the Supreme Court in Merrell Dow Pharmaceuticals, Inc. v. Kluke204 held that prospective human study participants have a right to
know whether a research institution required a researcher to disclose
information about his or her conflicts of interest. The Court said that
information about the researcher’s conflicts of interest are
all relevant information about the
researcher’s involvement in the research. The Court also held that
the researcher’s conflicts of interest are
not a matter of public concern and

204 For practical limits, see infra Part IV.D.3.
205 271 Cal. Rptr. 146
206 See id. at 152.
207 See id. at 151.
under the physician’s contract and his medical license); White v. White, 826 S.W.2d 830 (Tenn. Ct. App. 1991)
(physicians have a duty to disclose not under a contract or license but as a matter of the public good).

White’s disclosure does not require a


the incentive to loosen conflicts of interests standards as a way of competing with other institutions for researchers and private funding.

In addition to setting standards that can be incorporated into and enforced under institutional policies and procedures, standards proposed under current recommendations for reform can, at least in theory, provide a basis for enforcement through private causes of action. For example, a law that mandates disclosure of researchers' financial conflicts of interest to prospective human subjects as part of the informed consent process not only creates a standard against which institutions may judge the propriety of a human research protocol, it also provides a basis for a private cause of action for failure to obtain informed consent that can be brought by a human subject.

A law mandating the disclosure of financial conflicts of interest to prospective human subjects would resolve any doubt about the application of the duty to disclose such information. Currently, courts disagree about whether informed consent law requires physicians or researchers to disclose information about themselves, or whether the duty to disclose encompasses only information about a proposed treatment or experiment. The California Supreme Court in Moore v. Regents of the University of California ruled in 1990 that a physician-researcher had a duty to disclose to his patient-research subject that he had a financial interest in removing the patient-subject’s spleen and in obtaining various tissue and bodily fluid samples. The court held that if a particular piece of information is relevant to a patient or research subject in deciding whether to consent to treatment or research, it must be disclosed even when the information concerns the physician or researcher and not the treatment or research at issue. Nonetheless, many courts have refused to extend the duty to disclose as broadly as did the court in Moore. Instead, they have limited the duty to only information about the treatment or research.

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204 For practical limitations on the enforcement of such standards under negligence and fiduciary theories, see infra Part IV.D.3.
206 See id. at 152.
207 See id. at 151.
208 See, e.g., Neade v. Portes, 739 N.E.2d 496, 504-05 (Ill. 2000) (concluding that a physician does not have a duty to disclose to a patient financial incentives to withhold necessary medical treatment that arise under the physician’s contract with the patient’s managed care organization); Kaskie v. Wright, 589 A.2d 213, 217 (Pa. Super. Ct. 1991) (ruling that physician does not have a duty to disclose his alcoholism or the status of his medical license); Whiteside v. Lukson, 947 P.2d 1263, 1265 (Wash. Ct. App. 1997) (holding that the duty to disclose does not require disclosure of a surgeon’s lack of experience in performing a surgery).
A prohibition against research institutions and researchers conducting human subjects research while either owns equity in the corporate sponsor of that research could have a similar effect. It might not only guide institutional policy, but also provide a standard on which injured human subjects might base a professional and institutional negligence claims.

3. The Limits of Accountability Under the Proposed Reforms

Despite this contribution to increasing the accountability of researchers and research institutions for failing to adequately protect the safety of research subjects, the proposed reforms fall short of providing a level of accountability that is likely to promote fidelity to the safety of human subjects because they continue to rely on objective institutional enforcement of these new standards despite evidence of institutional bias. As described above, research institutions have a vested financial interest in receiving grants for research from private firms, in competing with CROs for such private funding, in competing with peer institutions for researchers, and in exploiting the commercial value of the results of the research they house.209 The Gelsinger and Hutchinson cases provide at least anecdotal evidence that such financial interests might undermine the objectivity of institutional reviews of financial conflicts of interest.210 Nonetheless, most reform proposals rely on institutional enforcement and do not account for the problem of institutional bias in favor of permitting researchers’ financial conflicts of interest to go unchecked. Some proposals, such as the one offered by AAMC, address the problem of institutional bias but fail to provide a sufficient check against that bias.211 As a result, any increase in accountability made possible by the creation of new conflicts of interest standards under current reform proposals may be negated by a biased institutional process of enforcement.

A second reason why proposed reforms are unlikely to increase accountability within the research enterprise for inadequate protection of human subject safety is that, despite new standards under the proposed reforms, private causes of action available to enforce those standards are unlikely to result in liability. Standards set under laws prohibiting conflicts of interest and mandating disclosure of nonprohibited conflicts would be enforced through a medical malpractice claim against an individual researcher, an institutional negligence failure to obtain institutional enforcement. Under the burden of proving causation, financial conflict of defendant’s conduct, to disclose a financial conflict of interest the human subject case by establishing that it materialized in the risk of harm the standard requires, in addition by a financial incentive materialized risk of harm or compensation.214 That may be that, but for the conduct of the institution himself or herself in

The same would be true of other research institutions, whose duty not to participate in the financial interest, an injured human subject breach of this standard requires a showing that the researcher or the research entity “There is almost no

209 See supra notes 103-12 and accompanying text.
210 See supra notes 135, at 562 (identify appropriate knowledge of constructive knowledge of the physician’s failure to adequately
211 See supra note 135, at 562 (identify appropriate knowledge of the institution’s role in the decision-making process.)
214 See supra note 135, at 562 n.2 (identification of cause of action).
Researchers conducting research in corporate sponsor of a research institution might guide institutional review boards to ensure that human subjects are properly informed.

Informed Consent

Many of the safeguards designed to protect the safety of research subjects or the level of accountability for research subjects because they were not exposed to these new standards when research institutions were conducting research from private sources, may be in competing with or outweighed by commercial value of the research. In the Gandel and Hutchinson cases institutional failures to prevent financial conflicts of interest may be made to rely on institutional authority to mitigate or minimize bias in favor of research funding or other benefits. Some cases may address the problem of institutional responsibility or the conduct that bias. As a result, the creation of new institutional standards may be negated.

Conflicts of Interest

Institutional negligence claim against a research institution, and claims for failure to obtain informed consent against both researchers and research institutions. Under each of these claims, the injured human subject carries the burden of proving causation, which in a case alleging injury as a result of a financial conflict of interest, means proving a financial motive underlying the defendant's conduct. Imagine, for example, a case in which a researcher failed to disclose a financial conflict of interest to a human subject. In most states, the human subject can prevail under a claim for lack of informed consent only by establishing that the risk posed by the conflict of interest actually materialized in the course of conducting research on the plaintiff. This standard requires, in effect, proof that the researcher's conduct was motivated by a financial incentive. Additionally, the plaintiff must show that the materialized risk caused the injury for which the plaintiff is seeking compensation. This requirement mandates that the human subject establish that, but for the conflict of interest, the researcher would have conducted himself or herself in a way that avoided injury to the plaintiff.

The same would be true in negligence claims against both researchers and research institutions. Even assuming that a researcher or institution breached a duty not to participate in research in which either had a prohibited conflict of interest, an injured human subject could not prevail without proving that the breach of this standard caused the subject's alleged injury. Again, doing so requires a showing that the conflict of interest affected the conduct of the researcher or the research institution, which resulted in the alleged injury. Such a burden is almost impossible to satisfy. As one commentator noted: "There is almost never a smoking gun. [For example, you] can't say that Jesse

212 See, e.g., Johns Hopkins Hosp. v. Gendz, 258 A.2d 595, 598 (Md. 1969) (concluding that to prevail in a medical malpractice action against a physician, a plaintiff must show that the injury was the result of a breach of the medical standard of care); Thompson v. Nason Hosp., 591 A.2d 703, 708 (Pa. 1991) ("[F]or a hospital to be charged with [institutional] negligence, it is necessary to show that the hospital had actual or constructive knowledge of the defect or procedures which created the harm ... [and] the hospital's negligence must have been a substantial factor in bringing about the harm to the injured party."); see also Gatter, supra note 135, at 562 (identifying and explaining the causation element of informed consent claims based on a physician's failure to adequately disclose treatment information).

213 See Canterbury v. Spence, 464 F.2d 772, 790 (D.C. Cir. 1972) ("[T]he unrevealed risk that should have been made known must materialize, for otherwise the omission, however objectionable, is legally without consequence.").

214 See, e.g., Martin ex rel. Scoptur v. Richards, 531 N.W.2d 70, 81 (Wis. 1995) (recognizing the two steps of causation in an informed consent claim—whether the plaintiff would have chosen the undisclosed treatment and whether the undisclosed treatment would have lessened the plaintiff's injury); see also Gatter, supra note 135, at 562 n.36 (describing injury-causation in informed consent law and distinguishing it from decision-causation).
Gelsinger died because [principal investigator] Jim Wilson had stock in Genovo.\textsuperscript{215} Neither can you say that Jesse Gelsinger died because the University of Pennsylvania also owned stock in that same faculty start-up.

If a human subject injured as the alleged result of a financial conflict of interest bears an insurmountable burden of proving causation, then any conflict of interest standards created under proposed reforms do not promote accountability.\textsuperscript{216} An unwinnable cause of action simply has no deterrent value.

Of course, a researcher who, motivated by a financial interest, negligently deviates from a protocol and causes injury to a human subject as a result could be liable under a malpractice theory without any proof of what motivated the researcher’s negligence. Negligence is a motiveless cause of action.\textsuperscript{217} Accordingly, the human subject need only prove that the researcher’s deviation from the protocol was in fact negligent and that it led to the human subject’s injury. In other words, a human subject can avoid the difficult problem of proving that the researcher’s conduct was affected by a financial interest so long as some other act of negligence exists on which to base the subject’s claim.\textsuperscript{218}

This backdoor approach to establishing liability might not increase accountability, however. Cases in which a financial conflict of interest results in injury to a human subject might not involve any act of negligence other than placing a personal or institutional financial interest ahead of the obligation to protect the welfare of human subjects. Imagine, for example, a researcher who chooses between two non-negligent interpretations of the clinical criteria for a human subject’s participation in a trial, and that the researcher’s choice is based solely on a personal financial interest in enrolling human subjects

\textsuperscript{215} Stolberg, supra note 7, at 26.

\textsuperscript{216} Statutes providing immunity for peer and quality review committees within health care institutions may also pose a barrier to human subject’s holding IRB members and research institutions privately accountable with respect to injuries arising from financial conflicts of interest. See Robertson, supra note 103, at 530, 532.


\textsuperscript{218} Indeed, some courts have suggested that patients suing their physicians for negligence related to a financial conflict of interest cannot state a claim unless it is based on an allegedly negligent act unrelated to the conflict of interest. See infra notes 224, 231 and accompanying text for descriptions of Pesgram v. Herdrich and Neade v. Portes, respectively.


\textsuperscript{220} E.g., Moore v. R. D. Kennedy Krieger Inst., 782 A.2d 689, 691 (Md. 2001) (discussing the special relationship giving rise to fiduciary duties).


\textsuperscript{222} See Johnston, supra note 9.
Wilson had stock in a company that died because of the failure of faculty start-up.

A financial conflict of interest, then any conflict of interest, generally has no deterrent value.

a. interest, negligently chosen as a result could have been what motivated the decision. As a result of the interest in action.217

b. researcher's deviation from the research subject's will is the difficult problem of financial interest so that to base the subject's presumption that might not increase a claim of interest results in negligence other than the case of the obligation to disclose. In the case of a researcher who clinical criteria for a treatment, the researcher's choice is harming human subjects

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quickly and without regard to the welfare of prospective human subjects. If a subject is injured as a result of the researcher's interpretation of clinical criteria, and if the subject cannot allege any negligence other than one directly related to the researcher's financial conflict of interest, then there is no option except to prove that the financial interest affected the researcher's behavior that caused injury to the subject.

As an alternative, one might turn to fiduciary causes of action. Fiduciary law recognizes duties of loyalty and honesty in certain relationships that can generally be described as trust relationships.219 Indeed, courts have recognized that medical relationships, including the physician-patient and researcher-human subject relationships, have many fiduciary qualities that justify the application of some fiduciary duties.220

A unique advantage of a claim for breach of fiduciary duty is that it can relieve plaintiffs of the burden of proving causation.221 Some jurisdictions require proof of only a fiduciary relationship between the plaintiff and defendant that gave rise to one or more fiduciary duties breached by the defendant. Such a showing is sufficient to establish a prima facie case, and the burden shifts to the defendant to prove that liability should not lie. Causation and injury is thereby presumed absent the defendant's proof to the contrary.222

This claim would resolve the accountability problem posed by negligence-based claims as applied to financial conflicts of interest in human subjects research. Just as the standards in the proposed reforms could be translated into standards of care for negligence-based claims, they also could be used to establish fiduciary standards of loyalty to the safety of human subjects. More importantly, the elements for a prima facie claim would shift the burden of proving causation from a human subject to the researcher or research institution. Fiduciary law could provide a mechanism through which to enforce a broad and general standard of fidelity to human subject safety that


222 See Johnston, supra note 221, at 962-63 nn.65-66.
would more completely harness the expressive function of the law. Thus, fiduciary law might enable a human subject to pursue a claim that directly addresses financial conflicts of interest in clinical research.

Despite the promise of such a fiduciary claim to increase the accountability of the research enterprise for the safety of human subjects and despite its application in other arenas, it is unlikely that fiduciary law applies to relationships between human subjects and researchers or between human subjects and research institutions—at least not to the extent necessary to enforce a duty of loyalty applicable to financial conflicts of interest. Based on the reasoning of two recent cases addressing the application of fiduciary principles to financial conflicts of interest associated with managed health care, courts are likely to hold that injuries allegedly caused by financial conflicts of interest in human subjects research are remediable only under a negligence theory.

In *Pegram v. Herdrich*,[224] the United States Supreme Court held that fiduciary duties imposed by ERISA do not apply to physicians providing medical services through health maintenance organizations (HMOs) that give physicians financial incentives to withhold or delay necessary medical treatments.[225] In reaching this conclusion, the Court reasoned that claims for medical malpractice would adequately protect patients against injuries caused by conflicts of interest arising from financial arrangements between managed care organizations and physicians.[226] Moreover, the Court claimed that, because no breach of a fiduciary duty related to a financial conflict of interest could be proven without proving a medical malpractice claim, a breach of fiduciary duty claim would simply duplicate the malpractice claim that is already available.[227] [The defense of any HMO [to a claimed breach of the fiduciary duty of loyalty] would be that its physician did not act out of financial interest but for a different motive, such as undue financial benefit.

The Court went on to explain that medical malpractice claims are unnecessary because physicians would simply duplicate the malpractice claim, which is in any case for this exact reason.

As a case in point, the Court cited a case in which a human subject alleged that a physician had acted not in the interest of the patient but in the interest of the physician. Nonetheless, the Court held that the medical malpractice claim was not necessary, and it remanded the case to the Illinois Supreme Court for further consideration.

In *Neade v. Pecora*, the Court held that a physician refused to order the testing of thyroid-function under a contract with an HMO. The patient claimed that an undiagnosed heart condition was due to a breach of fiduciary duty. She claimed that the physician acted not in good faith and in the patient's best interest, as required by the Illinois Supreme Court.

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223 Courts have applied fiduciary duties of loyalty and honesty to the conduct of other professionals, including lawyers, see, e.g., Clark v. Rowe, 701 N.E.2d 624, 628-29 (Mass. 1998) (holding that fiduciary law can be applied against lawyers for "[b]reaches of client confidences, inappropriate conflicts of interest, and the use of advantages arising out of the client-lawyer relationship"), and clergy, see e.g., Moses v. Diocese of Colo., 863 P.2d 310, 522-23 (Colo. 1999) (recognizing a breach of fiduciary duty claim against a clergyman who had entered into a sexual relationship with the wife of a couple to whom the clergyman was providing marriage counseling).

225 Id. at 235-36.
226 Id.
227 Id.
interest but for good medical reasons, the plausibility of which would require reference to standards of reasonable and customary medical practices in like circumstances. That, of course, is the traditional standard of the common law. Thus, for all practical purposes, every claim of fiduciary breach by an HMO physician . . . would boil down to a malpractice claim, and the fiduciary standard would be nothing but the malpractice standard traditionally applied in actions against physicians.228

The Court went on to find that applying ERISA’s fiduciary duties to HMO physicians would simply result in creating a federal medical malpractice claim,229 which is inconsistent with Congressional intent for ERISA.230

As a case interpreting ERISA, Pegram is distinguishable from any claim by a human subject alleging a breach of the common law fiduciary duty of loyalty by a physician-researcher or research institution based on a financial conflict of interest. Nonetheless, a state court considering a human subject’s breach of loyalty claim might dismiss the claim based on Pegram’s reasoning that the claim unnecessarily duplicates a medical malpractice claim. In fact, the Illinois Supreme Court has already dismissed a common law breach of loyalty case for this exact reason.

In Neade v. Portes,231 the wife of a deceased patient alleged that the physician refused to authorize medically necessary diagnostic tests because ordering those tests was inconsistent with the physician’s financial interests under a contract with the patient’s HMO and that the patient died as a result of undiagnosed heart disease.232 Her complaint included a claim for breach of fiduciary duty. She alleged that the physician breached “a fiduciary duty to act in good faith and in the best interest” of the patient by entering into a financial arrangement with the patient’s HMO “that put [the physician’s] financial well-being in direct conflict with [the patient’s] physical well-being.”233 On appeal, the Illinois Supreme Court dismissed the breach of fiduciary duty claim.

228 Id. at 235.
229 Id. (noting that an ERISA fiduciary action “would simply apply the law already available in state courts and federal diversity actions today, and the formulaic addition of an allegation of financial incentive would do nothing but bring the same claim into a federal court under federal-question jurisdiction”).
230 Id. (“We have seen enough to know that ERISA was not enacted . . . in order to federalize malpractice litigation in the name of fiduciary duty or any other reason.”).
231 739 N.E.2d 496 (Ill. 2000).
232 Id. at 498-99.
233 Id. at 499.
holding that it duplicated a medical malpractice claim. The court relied on the rationale from Peagram that one cannot prove a breach of fiduciary loyalty claim without proving a medical malpractice claim. In the end, the plaintiff was left with a medical malpractice claim, which did not permit reference to the defendant-physician’s financial conflict of interest unless the physician testified at trial.

Even though Peagram and Neade involved medical treatment rather than research, the rationale employed in those cases might persuade a state court to dismiss a breach of fiduciary duty claim brought by an injured human subject based on a financial conflict of interest at work in a clinical trial in which the human subject participated. The court might find that the fiduciary claim will require consideration of whether the defendant deviated from a standard of care and thus has a negligence claim. Furthermore, a court might follow the U.S. Supreme Court’s lead and bolster its dismissal of the fiduciary claim on the grounds that the claim is inconsistent with federal policy. The Peagram Court found that applying fiduciary principles to cost-saving incentives given by HMOs to their physicians conflicted with federal policy permitting HMOs to use financial mechanisms to lower the cost of medical care. Similarly, a court considering a human subject’s breach of loyalty claim might find it inconsistent with federal technology transfer policy designed to increase the production of marketable medical products by applying free market incentives to the research process.

Additionally, some argue that fiduciary principles are of limited relevance to professional medical relationships in which the professional is placed in a position of conflicting obligations. Thus, there may be reluctance to categorize a researcher-human subject relationship as a fiduciary relationship because the researcher, despite owing some duties to the human subject (e.g., confidentiality and respect for the interests of science and the rights of participants), may forgo the interests of research for inadequate protection of the subject’s rights. Nothing in the case for reform appears to suggest a need to suspend human subject protections to promote research goals, although the risk of increasing subject safety.

E. Avoiding Juridification: Trustworthiness and Regulation

We have examined the expressive and substantively grounded case for reform, the need to promote greater research subject safety, and the need to articulate a justification for the burden of research for those proposals.

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234 Id. at 502.
235 See id.
236 See id. at 506. Because medical malpractice is a more serious cause of action and because evidence of a financial conflict of interest goes to motive, the court held that the evidence should be excluded unless the physician testifies and thus brings his credibility into question. Id.
238 See supra notes 25-29 and accompanying text.
239 See Marc A. Rodwin, Strains in the Fiduciary Metaphor: Divided Physician Loyalties and Obligations in a Changing Health Care System, 21 AM. J.L. & MED. 241, 253-56 (1995) (arguing that fiduciary principles have less application to the physician-patient relationship as groups other than patients have greater influence over physicians, as medical authority shifts from physicians to managed care organizations, and as health policy becomes more concerned with groups than with individuals).
confidentiality and risk disclosure), must first serve the research protocol and the interests of science.

In conclusion, simply enacting new conflicts of interest standards is unlikely to increase the accountability of researchers and research institutions for inadequate protection of human subjects from the risks posed by financial conflicts of interest. To increase accountability those standards must be enforceable, and the methods of private enforcement under current proposals for reform appear weak.

Certainly institutions and the private tort system are not the only means for enforcing legal standards. In fact, the federal government has the power to suspend human subjects research at institutions that fail to comply with current conflicts of interest regulations. The question is whether this recourse alone—without a system of private accountability—is sufficient accountability to promote greater fidelity of researchers and research institutions to human subject safety.

E. Avoiding Juridification and the Possibility of Undermining Trustworthiness in the Human Research Enterprise Through Over-Regulation

We have examined two principles associated with promoting a norm of fidelity through law. The principles of exploiting the expressive and accountability functions of the law both suggest that more regulation is needed. A third principle—avoiding the potential juridifying effect of law—provides a contrasting lesson. It teaches that increased legal control of conduct can undermine the very norms that the law hopes to promote.

This section describes the juridifying effect of law and its relationship to the expressive and accountability functions of law. It concludes that regulation is most likely to result in increased fidelity within the research enterprise to human subject safety if it continues to rely on researchers and research institutions to interpret and enforce conflicts of interest standards and avoids a "command-and-control" policy. This section then examines the potential juridifying effects of current reform proposals and options for supplementing those proposals.

1. The Juridifying Effect of Law

The juridifying effect of law, as used here, refers to the potential of the law to backfire in its attempt to promote fidelity among researchers and research institutions to human subject safety despite opportunities for financial gain from the commercialization of research results. As developed below, any regulatory strategy involves some risk that those whose conduct it targets will view the law as a set rules to be interpreted and loopholes to be exploited according to one's own interests and without regard to the interests of others. Accordingly, the law can trigger conduct that undermines fidelity to human subject safety among those it seeks to regulate, and it can do this despite its intent to promote such fidelity.

The idea that law has a juridifying effect derives from the broader concept of juridification, a sociological term referring to the proliferation of law into an increasing number of areas of conduct.\(^{241}\) It describes both the historical phenomenon of this proliferation\(^ {242}\) and the bundle of sociological problems resulting from law's expansion.\(^ {243}\) Generally, it is used pejoratively—described as "legal pollution" and "the bureaucratization of the world" to depict the law's growing failure of regulation and undermine the very core of post-retirement income independence may well be.

A core lesson to potential to undermine from the social spheres merely because they that individuals will that norm were to result from the realization that targets of regulation to law and choose to (citations deleted)


\(^{242}\) See 2 JÜRGEN HABERMAS, THEORY OF COMMUNICATIVE ACTION 356-64 (Thomas McCarthy trans., Beacon Press 1987) (1981) (describing four historical "waves" of juridification); see also Orts, supra note 241, at 1240-41 (describing the proliferation of environmental regulation).

\(^{243}\) See, e.g., Römkens, supra note 241 (discussing the negative consequences of a proliferation of law relating to domestic disputes); Stith & Cabrales, supra note 241, at 187-88 (discussing the way in which federal sentencing guidelines hamstring criminal sentencing).

\(^{244}\) Teubner, supra note 241, at 3 (quoting Thomas Ehrlich, Legal Pollution, N.Y. TIMES, Feb. 8, 1976, § 6 (Magazine), at 17).
depict the law's growth as uncontrolled and damaging. It also describes a failure of regulation, occurring when the law's rationality and structure either undermine the very goal of regulation or achieve that goal at the expense of destroying a preexisting social structure. So, for example, law providing post-retirement income to individuals as a means of promoting their financial independence may unintentionally create financial dependence on the state.

A core lesson to be drawn from juridification is that the law has the potential to undermine social norms by moving control over an area of conduct from the social sphere to the legal sphere. Such norms are undermined not merely because they have been replaced by law, but also because there is a risk that individuals will more readily violate a norm if it is codified into law than if that norm were to remain in the social sphere and uncodified. This risk derives from the realization that laws and norms do not coincide perfectly because the targets of regulation may overlook or ignore the normative inspiration of the law and choose to comply with the letter of the law alone. Indeed, the law's

245 Id. at 3.

246 See id. at 3-4; see also Van Der Burg, supra note 160, at 35 (referring to the "adverse side-effects" of steering conduct—and conduct related to health care in particular—through the law).

247 See HABERMAS, supra note 242, at 362-64 (discussing examples of juridification related to state entitlement programs).

248 See id.; see also DAVID M. RASMUSSEN, READING HABERMAS 81 (1990) (stating that juridification is an example of the "colonization of the lifeworld" according to which "areas of social life [are] subject to new norms of domination and control"); Teubner, supra note 241, at 21-22 (referring to this phenomenon as "social disintegration through law").

Habermas recently articulated this characteristic of law, recognizing that the validity of a regulatory system turns on whether targets of regulation can perceive the law as an embodiment of a norm while tolerating that some will perceive the law as merely a bureaucratic barrier to achieving individual goals.

Depending on the chosen perspective, the legal norm presents a different kind of situational element: for the person acting strategically (i.e., self-interestedly), it lies at the level of social facts that externally restrict her range of options; for the person acting communicatively (i.e., based on agreed-upon norms), it lies at the level of obligatory expectations that she assumes, the legal community has rationally agreed on. Thus the actor, taking in each case a different point of view, will ascribe to a legally valid regulation either the status of a fact with predictable consequences or the deontological binding character of a normative expectation.

... Inasmuch as these norms leave open the motives for rule-confirming behavior, we might say they "tolerate" an actor's strategic attitude toward the individual norm. As elements of a legal order that is legitimate as a whole, they appear at the same time with a normative validity claim that expects a rationally motivated recognition. As such, they at least invite the addressees to follow them from the nonenforceable motive of duty. This invitation means that the legal order must always make it possible to obey its rules out of respect for the law. ...
if-then structure makes this possible when it attempts to create a bright-line distinction between acceptable and unacceptable conduct. In short, juridification teaches that, by steering conduct with laws rather than norms, society creates a disconnect between the spirit and the letter of rules that those operating under the rules may exploit. So, for example, a physician can comply with informed consent laws requiring disclosure of treatment information to patients without achieving the goal of promoting autonomous medical decisionmaking among those patients, and the more detailed the legal rules of disclosure are, the easier it is for physicians to focus on the letter rather than the spirit of those rules.

While the concept of juridification recognizes that codifying norms into law increases, if not creates, the risk that such codification undermines the very norm it attempts to embody, it does not teach that all codification of norms is necessarily inappropriate. Rather, by recognizing this risk, the concept of juridification counsels policymakers to take account of the risk in deciding when and how to regulate conduct. Accordingly, regulation is justified where its likely benefits outweigh the risk of juridification. Thus, while the risk of

250 See Habermas, supra note 242, at 362 (referring to the if-then structure of law and its relationship to individuals acting according to their self-interests and the legal and monetary incentives of welfare entitlements).

251 But see Van Der Burg, supra note 160, at 35-36 (claiming individuals subject to laws relating to moral issues are likely to ignore those laws to the extent that the law conflicts with their personal moral view points and that a conflict between the law and the moral view points of individuals subject to the law are more likely to develop the more the law attempts to make a detailed moral statement).

252 Many others have recognized that the letter of informed consent law does not guarantee respect for the “spirit” of patient autonomy underlying the law. See, e.g., Faden & Beauchamp, supra note 135, at 276-87 (recognizing two conceptions of informed consent—one based on the aspiration of informed consent and the other based on mere compliance with rule); Jay Katz, The Silent World of Doctor and Patient 48-84 (1984).

253 For example, disclosure rules are quite specific under Louisiana and Texas law. A physician satisfies the duty to disclose merely by reciting a list of risks approved and published by expert panels for the testiment that the physician is recommending the patient consider. See La. Rev. Stat. Ann. § 40:1299.40E (West 2001); Tex. Rev. Civ. Stat. Ann. art. 4590i § 6.04 (Vernon 1999). So, for example, a physician recommending a blood transfusion need only read or hand to a patient the following list:

Transfusion of blood and blood components.

1. Fever.
2. Transfusion reaction which may include kidney failure or anemia.
3. Heart failure.
4. Hepatitis.
5. AIDS (acquired immune deficiency syndrome).
6. Other infections.

juridification always exists and always cuts against using the law to steer conduct, its mere existence is not a sufficient basis for opposing law as a steering mechanism. Moreover, the risk that law undermines a norm it seeks to promote changes depending on the style of regulation adopted. Thus, even if one form of regulation cannot be justified because of its likely juridifying effect, another form of regulation less likely to have a juridifying effect might be justified.

The style of regulation posing the greatest risk of juridification is one in which the law comprehensively regulates an entire area of conduct based on an authority external to the area of conduct that is regulated, otherwise known as a "command-and-control" style of regulation. Specifically, a law's juridifying potential increases the broader the law's scope, the greater its density, and the more it moves the control of conduct from those within the regulated sphere to the external legal authorities.

The concept of juridification warns that a point exists at which the task of regulatory compliance becomes so large as to overwhelm any effort to comply with the normative spirit underlying those regulations—like losing sight of the forest for all of the trees. The regulation of nursing homes in the United

254 Habermas refers to legally created and administered entitlement programs of the welfare state as the example of law that is most likely to result in the destruction of social norms through law. HABERMAS, supra note 242, at 369 (stating that when "administrative and judicial controls . . . do not merely supplement socially integrated contexts with legal institutions, but convert them over to the medium of law, then functional disturbances arise"). To avoid this juridifying risk, Habermas proposes that the law should generally be limited to creating a legitimate process by which rules are created within the area targeted for regulation and giving the force of law to those rules. See id. at 370-71. See also generally Teubner, supra note 241 (identifying instrumentalized and politicized law as the kind of law creating the greatest risk of juridification and recommending legally controlled self-regulation as a style of law that minimizes this risk).

255 Command-and-control regulation is most commonly discussed with respect to environmental law:

Command-and-control regulation refers to a system of pollution control based on uniform standards of performance for sources of pollution. Most typically, regulators adopt standards that specify for a particular category of sources how much of a given pollutant a source is permitted to emit over a given unit of time.


256 The federal income tax code is a good example. It attempts to direct how taxpayers should account for every aspect of their economic lives. As one commentator described IRS form 1040: "[T]his all-encompassing two-page document and its 250 subforms reflect every human circumstance and foresee every life that touches them. [For example, when the 1040 was first issued in 1914, you could only take casualty deductions for fires, storms and shipwrecks. Now they include sonic booms, car accidents, earthquakes, mine cave-ins and volcanic eruption."

257 An analogous phenomenon called "masking" is recognized among law and norms scholars. They
States provides an example of this form of juridification. Nursing home regulation is so comprehensive that one commentator has used the “command-and-control” label to describe it. Some argue that, as a result of such regulation, nursing home personnel concern themselves with regulatory compliance rather than with quality of care. For example, Professor Alan Meisel has found widespread anecdotal evidence that residents of nursing homes have a more difficult time than hospital patients refusing a feeding tube, a difference that he attributes to the degree to which the feeding of nursing home residents is regulated and a prevailing attitude among nursing home personnel to avoid citations from inspectors for regulatory violations.

Not only can command-and-control regulation divert even well-intentioned targets of regulation from norm compliance to law compliance, it can also undermine the desire of those targets to concern themselves with the normative claim that, when norms are codified into law such that complying with the norm is the same as complying with the law, it can be difficult to tell whether conduct that is consistent with the law has been steered by the norm or by law. In this way, the law and compliance with it masks norm compelling behavior. See McAdams, supra note 159, at 346; see also Kahan, supra note 173, at 338-39 (referring to this phenomenon as “crowding out moral motivations”).

The masking phenomenon is analogous to the losing-the-forest-for-the-trees phenomenon because each recognizes the distinction between conduct that is motivated by the normative spirit of the law and conduct that is motivated by the coercive component of the law. Nonetheless, the two phenomena are distinguishable because masking applies only where the norm compliance and law compliance coincide, whereas the losing-the-forest-for-the-trees phenomenon applies only where law compliance diverges from norm compliance.

The environment of pervasive, comprehensive regulation, within which the nursing facility (NF) industry presently operates in the United States, has evolved steadily over the past quarter century as a matter of a political, almost quasi-religious, belief. This belief, by residents’ advocates and their legislative and regulatory allies, has been professed on and abetted by the popular media. This commitment to direct command and control regulation, as the key to quality of care and quality of life, is often fueled by an ideological fervor predicated on deep and abiding antipathy for any approach to public policy questions faintly sympathetic to a substantial role for free enterprise and the private marketplace in the delivery of health and human services.


See id. at 720 (arguing that the administrative burden of compliance draws highly trained nursing home personnel away from providing care). While Professor Kapp recognizes the pathological consequences of a command-and-control style of nursing home regulation, he does not relate this to the concept of juridification. Instead, he uses the theory of therapeutic jurisprudence to address the problem he observes. Id. at 713-18.

See generally Alan Meisel, Barriers to Forgoing Nutrition and Hydration in Nursing Homes, 21 AM. J.L. & MED. 335 (1995). Meisel cites to one author who found that avoiding such a citation motivated some nursing homes to insert feeding tubes. Id. at 344 n.52. Meisel concludes that the devotion to regulatory compliance both derives from and feeds “the commonly held myth that unless there is positive law—statute or regulation—that specifically states that something is permissible, it is impermissible.” Id. at 380.
Nursing home residents of nursing facilities (NFs) are the "command-and-control" victims of the law. As a result of such regulatory schemes, with regulatory compliance, Professor Alan Kahan describes nursing home residents of nursing homes as "crowding out the spirit of the law. It can increase the degree to which targets of regulation pursue their individual interests and deviate from those interests only as absolutely required by the letter of the law; thereby, diminishing the number of actors who subordinate their personal interests to the public interest underlying the law. This phenomenon is another juridifying effect of law, but its roots are in law and norms theory rather than in the concept of juridification.

Law and norms literature recognizes that the more conduct is controlled by rules imposed outside of a community of actors, the more actors inside that community will act out of self-interest and without regard to the normative basis of those rules. In contrast, the more actors within the community are left in control of the rules under which they operate, the more they respect the spirit of the rules they impose on themselves. Law and norms scholars explain this phenomenon based on the expressive function of law. The key to this phenomenon is that actors observe and interpret evidence about the motives of others and then reciprocate. The law is one piece of evidence about the motives of others. A command-and-control regulatory scheme signals that those subject to regulation cannot be trusted to act responsibly—why else would such heavy regulation be necessary? Accordingly, individuals subject to regulation assume that all others will act in a self-interested way to the extent permitted (or at least not prohibited) by the letter of the law, and they reciprocate by adopting a similar attitude toward the law. The net result is a highly regulated and nonetheless untrustworthy community of actors.

261 See Kahan, supra note 173, at 335-44 (reviewing empirical evidence that cooperative behavior among individuals diminishes the more external incentives, such as financial penalties for rule violations, are introduced into a community of actors, and arguing that regulatory incentives operate similarly). The phenomena referred to here under the term juridification have been recognized by others analyzing health care regulation. See Agrawal supra note 159, at 397; Mark A. Hall, Arrow on Trust, 26 J. HEALTH POL'Y, POL'Y & L. 1131, 1141 (2001).

262 See id. (describing public goods and investment games in laboratories as well as observations about tax evasion practices and finding that, left to themselves, individuals will act cooperatively and to the benefit of the public good so long as they know a sufficient proportion of others are doing the same). See supra Part IV.C.1 for an explanation of the expressive function of law.

263 See id. at 342 ("When government engages in dramatic gestures to make individuals aware that the penalties for tax evasion are being increased, it also causes individuals to infer that more taxpayers than they thought are choosing to evade. This inference, in turn, triggers a reciprocal motive to evade . . . .").

264 See id. at 342 ("When government engages in dramatic gestures to make individuals aware that the penalties for tax evasion are being increased, it also causes individuals to infer that more taxpayers than they thought are choosing to evade. This inference, in turn, triggers a reciprocal motive to evade . . . .")

265 This is an example of how the law can communicate to individuals a consensus of beliefs and attitudes within the community of those whose conduct is regulated by the law. See McAdams, supra note 159, at 400-07 (describing how the law signals norm consensus). Here, the style of regulation communicates that the community has a selfish attitude toward the law.
In the end, the juridifying effect of law and the underlying concept of juridification explain some relatively simple barriers to promoting trustworthiness through law. First, there is something inherently contradictory about using the law to make individuals act in a more trustworthy manner. Conduct coerced by the force of law is not likely to inspire trustworthiness among those the law regulates. Rather, the need to regulate suggests that the targets of regulation are unworthy of trust. Second, the more completely the law attempts to control conduct, the less those subject to the law conduct themselves in a trustworthy manner with respect to the law.

These barriers, in turn, suggest that the law is more likely to promote trustworthiness by avoiding a command-and-control style of regulation. A style of regulation that relies primarily on articulating and enforcing principles to guide behavior, leaving a large measure of control over the interpretation and implementation of those principles with those whose conduct the law regulates, and imposing specific barriers to conduct in only limited circumstances, is more likely to succeed in both expressing an important norm and promoting the trustworthiness of the targets of regulation to respect that norm. Accordingly, regulators should presume to use this latter style of regulation and hold the more controlling style of regulation in reserve, to be used only if it becomes necessary to sacrifice the goal of promoting trustworthiness in favor of some other policy. As analyzed next, these conclusions have regulate financial purpose of promsafety.

2. The Juridifying Effect

Under current responsibility for subjects research from the new prohibitions of interest and by prospective human reforms is generi,juridifying effect; however, the prospect more prohibition of regulation could reduce trustworthiness of subjects. In addition, expanding the process by which that it should see interpretation and

Virtually everyone of interest in human to enforce confi, alternative is to take the FDA. While problem of instit, likely to have oversight would

267 Professor Tamar Frankel explains this contradiction using a political example. "When negotiating with the Russians, during the Cold War, President Reagan used the phrase: 'Trust, but verify.' This statement drew chuckles because if the other party is trusted, there is no need to verify its statements and promises." Tamar Frankel, Trusting and Non-Trustimg on the Internet, 81 B.U. L. REV. 457, 458-59 (2001) (citation omitted).

268 This style of regulation is consistent with a variety of scholarly perspectives on avoiding socially destructive law without deregulating all conduct. See, e.g., IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE (1992) (arguing from a law and society perspective for a tiered approach to regulation according to which lawmakers appeal to the moral sense of those whose conduct it would regulate and, only if this effort fails, move to direct regulation of that conduct); SIM B. SITKIN, On the Positive Effect of Legalization on Trust, in 5 RESEARCH ON NEGOTIATION IN ORGANIZATIONS 185, 206-11 (Robert J. Bies et al. eds., 1995) (finding from a business administration perspective that sparing use of detailed substantive rules and an emphasis on rules of procedural fairness is more consistent with promoting trust); Teubner, supra note 24, at 33-40 (arguing on the basis of the concept of juridification that the law should set procedural rules to guide self-regulation); TOM R. TYLET, Trust and Law Abidingness: A Proactive Model of Social Regulation, 81 B.U. L. REV. 361, 398-400, 405 (2001) (arguing, from a law and psychology perspective, that building community trust in legal authority requires fair procedures practiced by those authorities and that social control through punishment should be used in a limited way); VAN DER BURG, supra note 160, at 49-50 (arguing that, when addressing moral issues, legislation should express basic values and principles and avoid rigid system of rules).

269 Rather than reject command-and-control regulation, law and norms theory suggests that lawmakers tailor the style of regulation to the pursuit of trust. If and when policy shifts from promoting trustworthiness to some other goal, a control-and-command approach may be appropriate.
conclusions have important implications for the debate about how best to regulate financial conflicts of interest in human subjects research for the purpose of promoting fidelity of the research enterprise to human subject safety.

2. The Juridifying Effect of Various Reform Options

Under current reform proposals, research institutions retain primary responsibility for policing financial conflicts of interest with respect to human subjects research they house. This authority, however, would be limited by new prohibitions (both absolute and presumptive) on certain financial conflicts of interest and by mandatory disclosure of nonprohibited conflicts of interest to prospective human subjects.270 As discussed more fully below, this package of reforms is generally consistent with a regulatory regime that minimizes the juridifying effect of law because it continues to rely on self-regulation; however, the proposed prohibitions, and the chance that they balloon into even more prohibitions, pose a risk that a command-and-control regime of regulation could emerge, which would undermine the goal of promoting the trustworthiness of the research enterprise in protecting the safety of human subjects. In addition, an analysis of the juridifying effects of options for expanding the proposed reforms suggests that the law should regulate the process by which research institutions police financial conflicts of interest and that it should set broad conflicts of interest standards that allow for interpretation and refinement over time.

Virtually every proposal for reforming the regulation of financial conflicts of interest in human subjects research continues to rely on research institutions to enforce conflicts of interest regulations, a form of self-regulation.271 The alternative is to turn over all aspects of regulation to government agencies like the FDA. While such comprehensive external oversight would address the problem of institutional conflicts of interest in human subjects research, it is likely to have a significant juridifying effect. Comprehensive external oversight would likely backfire on any regulatory effort to express that the

some other goal, a command-and-control style of regulation may be justified. See Kahan, supra note 173, at 345-46 (recognizing that the style and degree of regulation changes based on whether a basis for trustworthiness exists within the community of actors to be regulated).

270 See supra notes 124-28, 130-34 and accompanying text for a description of current reform proposals. In addition to presumptive prohibitions on individual and institutional financial conflicts of interest and disclosure, AAMC and AAU proposals encourage institutions to segregate the administration of human subjects research from the management of technology transfer operations.

271 See supra note 124-28 and accompanying text.
research enterprise can be trusted to protect the safety of human subjects from the risks posed by financial conflicts of interest. It suggests the opposite: If such external oversight is necessary, then research institutions must not be trustworthy. This message is heard not only by the general public, but also (and more importantly under a juridification analysis) by researchers and research institutions. Given evidence that targets of regulation conduct themselves in a more self-interested way in response to increased external regulatory control of their behavior, 272 we should expect that researchers and research institutions would respond similarly to the message of distrust in any plan for comprehensive government oversight of conflict of interest management in human subjects research. Just as the strategy of government inspections of nursing homes has resulted in an attitude of sanction-avoiding compliance without regard to the goal of improving quality of care that underlies that strategy, 273 comprehensive governmental management of conflicts of interest in human subjects research could increase sanction-avoiding behavior at the expense of improving the fidelity of researchers and research institutions to human subject safety.

Accordingly, the leading proposals for reform are likely to promote the trustworthiness among researchers and research institutions because those proposals rely primarily on researchers and institutions to police conflicts of interest internally. This is not to say, however, that comprehensive external government oversight to the exclusion of institutional oversight is an unjustifiable regulatory strategy. Rather, such a strategy is unjustifiable only while the primary goal of regulation continues to be promoting the trustworthiness of the research enterprise. If, in the future, promoting trustworthiness is moved to a lower priority or is abandoned altogether, then the juridifying effect of external oversight becomes irrelevant.

Of course a regulatory strategy that relies on research institutions to police conflicts of interest despite the financial conflicts of interest of those institutions will be accused of leaving the fox to guard the hen house. 274 Thus, any such plan to promote a trustworthy research enterprise through self-regulation must, at the same time, increase the accountability of researchers

272 See supra notes 261-66 and accompanying text.
273 See supra notes 258-60 and accompanying text.
274 "When an academic medical center itself has a financial interest in a company, questions about its independence of judgment and oversight may arise, especially with respect to clinical research. Implicit is the question, 'Can the fox guard the chickens?'" Hamilton Moses III et al., Collaborating with Industry: Choices for the Academic Medical Center, 347 NEW ENG. J. MED. 1371, 1375 (2002).

and research institutions. Accountability is required, for the public interest undermined.

One option is to require that institutions are unaffiliated with their membership requirements. The percentage of universities which are unaffiliated with their membership requirements should require that universities have particular human subject committees. The majority of the institutional committee.

AAMC's proposal institutional bias permits institutions to include internal review committee which outside committees may be the only ones to decide to conduct research. Such a regulatory system would allow opportunities for oversight. Consequently, unaffiliated individuals can have financial conflicts
and research institutions for failing to adequately police themselves. Such accountability is necessary to diminish the risk that institutional conflicts of interest undermine the system of institutional oversight.

One option is to increase the transparency of institutional oversight by requiring that individuals unaffiliated with a research institution, its researchers, and its research funders participate in the institutional oversight process. Just as federal regulations require IRBs to have lay members who are unaffiliated with the institutions, the law could impose a similar membership requirement on institutional conflict of interest committees. The percentage of unaffiliated, lay participants required by law should be large enough to assure that the collective voice of those lay participants is not overpowered by institutionally affiliated members. Additionally, the law should require that when an institutional conflict of interest exists with respect to particular human subjects research, any plan for managing a financial conflict of interest related to that research must be approved solely by a majority of the institutionally unaffiliated members of a conflicts of interest committee.

AAMC’s proposal comes closest to recommending such a check on institutional bias in the process of institutional self-regulation. It urges institutions to include at least one institutionally unaffiliated member on its internal review committees, and it recommends that institutions employ outside committees to oversee human subjects research whenever institutions decide to conduct such research despite their having financial interests in the research. Such suggestions are, however, insufficient to sustain a self-regulatory system that can promote fidelity to human subject safety despite opportunities for commercial gain. Greater involvement of institutionally unaffiliated individuals is needed at the time institutions are deciding whether a financial conflict of interest exists, whether it should be prohibited, and, if not,
how it should be managed. Thus, the law should go farther than does AAMC. It should require that a substantial percentage of the membership of institutional conflicts of interest committees be made up of institutionally unaffiliated individuals, that those individuals are involved at all steps in the review and management process, and that no decision as to the existence, prohibition or management of financial conflicts of interest be made without the majority approval of a committee’s institutionally unaffiliated members.

Another option is for the law to prohibit certain financial arrangements between research institutions and corporations that stand to benefit commercially from human subjects research conducted within those institutions. External prohibitions certainly have a role to play within any plan for reform that relies on the research enterprise to oversee itself.279 As discussed next, however, that role is limited by the potential for a command-and-control regulatory regime to grow from a series of prohibitions.

Just as most reform proposals rely on research institutions to manage financial conflicts of interest, they also propose one or more prohibitions that would constrain the discretion of research institutions to do so.280 The proposed bans, however, are generally few.281 For example, most agree that the law should prohibit a researcher from owning stock or stock options in corporations that fund or have a commercial interest in the outcome of human subjects research conducted by the researcher.282 Most call for the law to prohibit payments to researchers from such commercially interested firms for consulting services or for meeting subject enrollment targets except to the extent necessary to reimburse actual expenses or to provide reasonable compensation.283

Because such legal prohibitions seek to control conduct with respect to only a few specific kinds of financial arrangements, they do not amount to a command-and-control regulatory regime.284

279 See Goldner, supra note 7, at 397-98 (suggesting some bans on particular conflicts of interest to supplement a regulatory plan that primarily relies on IRBs to manage financial conflicts of interest).

280 Throughout this discussion the term “prohibition” means one imposed by law. It does not, however, include extra-legal prohibitions, such as prohibitions imposed by a private association on its members.

281 See supra notes 124-29 and accompanying text.

282 Professor Frances H. Miller appears open to a more sweeping use of prohibitions. “Conflicts of economic interest between doctor and patient lend themselves better than most complex problems to fairly precise definition and relatively clear-cut ameliorative response. The government should take a strong leadership role in setting uniform standards for minimizing such financial conflicts, if not eliminating them altogether.” Miller, supra note 17, at 442.

283 See, e.g., AAMC, Individual COIs, supra note 16; Angell, supra note 17.

284 See AAMC, Individual COIs, supra note 16.
than does AAMC. The membership of institutionalists is such that all steps in the arrangement to the existence, can be made without involved members.

Financial arrangements designed to benefit themselves within those provisions within any plan would result in a command-and-control regulatory system results even when none was intended.

Sounding the bell of caution with respect to prohibitions is not premature despite the fact that most proposals make modest (albeit prominent) use of prohibitions to regulate financial conflicts of interest in human subjects research. On the contrary, now is the time for lawmakers to recognize the potential of prohibitions to undermine the goal of promoting trustworthiness. First, it is impossible to know when adding another prohibition will trigger a shift in attitude toward the law, and so it is important to make judicious use of prohibitions from the start. Second, one prohibition may spawn others so as to close loopholes or relieve inequities discovered in the original prohibition, which could force the law to employ a command-and-control style of regulation more broadly than it had intended. Consider, for example, a prohibition against researchers owning stock or stock options in a company that sponsors research conducted by the researcher or in a company that owns the commercial rights to matter or ideas that the researcher is testing. Such a prohibition would likely be supplemented by an exception for researchers who own such stock through a mutual fund and for researchers owning stock or stock options of a de minimus value (e.g., less than $10,000 in value). More prohibitions may be needed, however, as strategically thinking researchers, research institutions and biotechnology firms find ways around the prohibition, such as having the research institution own stock and periodically adjust the researcher's salary to reflect changes in the value of the stock, or having researchers own shares in a limited partnership, separate from, but controlled by a research sponsor. Lawmakers must anticipate that the command-and-control potential for any one prohibition is magnified by the potential for loophole-closing rules that must follow on the heels of that prohibition. Again, the lesson is to make judicious use of prohibitions from the start so as to achieve their value while staying a safe distance from the command-and-control threshold.

Because a series of prohibitions of specific conflicts of interest could lead to a command-and-control style of regulation that undermines the trust-
worthiness of those whose conduct the law is attempting to regulate, lawmakers should not rely on prohibitions as the primary mechanism for regulating financial conflicts of interest in human subjects research. Instead, prohibitions should play a secondary role as long as the primary goal of regulation is promoting the trustworthiness of the research enterprise. If lawmakers abandon trustworthiness as the primary regulatory goal, then legal prohibitions could legitimately play a primary role in regulating financial conflicts of interest.

If achieving trustworthiness through law means avoiding a command-and-control style of regulation, then any plan for regulating financial conflicts of interest in human subjects research must sacrifice a degree of control to achieve its goal. In other words, less is more when it comes to regulating for trust in human subjects research. Abiding by this principle is tricky, however, given that it is also necessary to expand the scope of regulation if lawmakers are to fully exploit the expressive function of law with respect to financial conflicts of interest.285

As suggested above, one option is for the law to articulate and enforce against researchers and research institutions a general standard of fidelity to the safety of human subjects. For example, legislators might recognize a cause of action for breach of fiduciary duty against researchers and research institutions.286 Not only would such recognition express the norm of fidelity widely across the research enterprise, it would do so without resorting to the creation of a code of conduct for conflicts of interest. A generalized duty of fidelity is unlikely to trigger a self-interested attitude toward the law because it does not suggest that researchers and research institutions are untrustworthy. In fact, it likely would be read to include a message of trust in the research enterprise because it sets a general standard of conduct and leaves it to researchers and research institutions to determine how to apply that standard in specific circumstances.287 Moreover, even a strategically thinking researcher or research institution would be forced to consider the underlying purpose of the standard to predict how a court might apply the standard if a human subject were to sue for its enforcement against the researcher or research institution.

285 See supra Part IV.C.2.

286 Defendants must bear the burden of disproving causation, however, for such a cause of action to be effective.


Accordingly, the article calls for law and research institutions in an effort to promote fidelity to human research subjects.

Even if a pre-existing agency's rules are promulgated by such rules reflect the regulatory targets of trustworthiness.

Nonetheless, one compromise for juridifying detailed standard of fidelity of regulation is possible.289 When a command-and-control standard and specific general standards from the safe research institu

288 Professor Robert Burt, Taking Care: For a more recent art legislation works best in that legislation fail to see 42 U.S.C. 290 Interestingly, regulations, see note regulations, see note these two areas of reg
Accordingly, the generality of the standard is more likely to steer researchers and research institutions in the direction of accounting for the spirit of the law in an effort to comply with its letter, which is consistent with promoting fidelity to human subject safety within the research enterprise.\textsuperscript{288}

Even if a proposal to apply fiduciary law to researchers and research institutions could overcome current judicial resistance, the research enterprise is likely to object to such a general rule of law, arguing that, because of its generality, it fails to adequately notify researchers and research institutions of the boundary between legal and illegal behavior. If, however, private associations of researchers and research institutions respond to a general standard of fidelity by creating their own codes of conduct with respect to conflicts of interest, then lawmakers might simply ignore this complaint. The juridifying effect of law does not apply to such private rules because they are promulgated by the targets of the regulation and not by lawmakers. Because such rules reflect control by the regulatory targets rather than control of the regulatory targets, they are consistent with the goal of promoting trustworthiness among those whose the law seeks to regulate.

Nonetheless, political reality might require a more significant response. One compromise between a fidelity-promoting, general standard, and a juridifying, detailed code of conduct might be reached by combining a general standard of fidelity with several safe harbors that assure immunity. This style of regulation is exemplified by Medicare and Medicaid fraud and abuse statutes.\textsuperscript{289} While codifying a series of safe harbors runs the risk of creating a command-and-control environment, a regulatory plan based on a general standard and safe harbors has an advantage over a code of prohibitions.\textsuperscript{290} The general standard of fidelity creates a risk of liability for conduct that strays from the safe harbors, thereby creating an incentive for researchers and research institutions to stay within the bounds of safe harbors. Moreover, it

\textsuperscript{288} Professor Robert Burt is an early proponent of this style of regulation in health care. See ROBERT BURT, TAKING CARE OF STRANGERS: THE RULE OF LAW IN DOCTOR-PATIENT RELATIONS 132, 140 (1979).

\textsuperscript{289} See 42 U.S.C. § 1320a-7b (2001); 42 C.F.R. § 411.357 (2002); id. § 1001.952.

\textsuperscript{290} Interestingly, while commentators have complained about the juridifying effect of nursing home regulations, see notes 258-60 and accompanying text, the author's research did not turn up any similar complaints with respect to fraud and abuse statutes. Whether this is attributable to the different structures of these two areas of regulation is unclear.
puts the burden on the research enterprise to seek new safe harbors. In comparison, a code of prohibitions creates a risk of liability only when conduct falls within the prohibition, and the burden is on lawmakers to identify when and where a new prohibition is needed.

Another alternative arises if private accrediting bodies develop substantive standards for institutional management of financial conflicts of interest. Lawmakers might simply defer to standards of those accrediting bodies. For example, federal law could require accreditation by such bodies as a condition to the receipt of federal research funds. Similarly, the law could recognize accreditation by such bodies as presumptive evidence that an institution has not violated any fiduciary duties in the management of institutional and individual financial conflicts of interest related to the human subjects research it oversees.

To this point, analyzing options for regulating financial conflicts of interest in human subjects research according to the juridifying effect of law reveals two characteristics of a regulatory plan that is most likely to promote the trustworthiness of the research enterprise. First, rather than create a new system of government oversight, lawmakers should rely on the research enterprise to manage its own financial conflicts of interest subject to new rules of transparency and accountability. Second, the law is more likely to promote trustworthiness by recognizing and enforcing a general standard of fidelity among researchers and research institutions to human subject safety than by crafting even more prohibitions concerning specific financial arrangements between researchers and industry.

The final step in this analysis is to consider the juridifying effect of mandating the disclosure of nonprohibited financial conflicts of interest to prospective human subjects as part of the informed consent process. As with proposals for certain prohibitions and for institutional management of conflicts of interest, there is broad-based support for such a mandate. And like those other proposals, mandatory disclosure of conflicts of interest does not necessarily have a juridifying effect that offsets its potential expressive value. Indeed, there is some empirical evidence supporting the notion that researchers and research institutions might reflect their trustworthiness when they disclose

291 In this way, a prohibition-and-safe-harbor strategy is similar to AAMC’s and AAU’s proposed rebuttable presumption to prohibit institutional and individual financial conflicts of interest among researchers and institutions conducting human subjects research.

292 See supra notes 124-28 and accompanying text.
their conflicts of interest. Yet, such disclosure might also suggest that the research enterprise is dumping responsibility for nonprohibited conflicts of interest on the human subjects. In other words, disclosure rules are a wild card in the regulation of financial conflicts of interest in human subjects research because they have the potential to both promote and undermine trustworthiness. Consequently, while they must be included in a regulatory plan out of respect for the autonomy of would-be human subjects, they cannot form the backbone of any such plan.

In general, a duty to disclose financial conflicts of interest does not involve a significant juridifying effect. A duty stated in general terms is unlikely to suggest that researchers and research institutions cannot be trusted to notify prospective human subjects of risks associated with financial conflicts of interest. The juridifying effect can become more significant if lawmakers attempt to define in rigid terms what must be disclosed because the more the law attempts to capture exactly what is and is not sufficient disclosure, the more it suggests that researchers and research institutions are attempting to evade the spirit of disclosure.

CONCLUSION

Policymakers and commentators are calling for reform in the regulation of financial conflicts of interest in human subjects research—but not just any reform. They almost unanimously seek regulatory reform that will promote a trustworthy human research enterprise, which has profound implications for the style of regulation that lawmakers should employ. Principles from the study of how law affects norms teach that the different styles of regulation yield different effects. Most importantly, regulations that broadly express a norm and that do not attempt to control completely the conduct of those it regulates are most likely to promote the norm at issue. Additionally, regulations that fail to express a norm broadly or that adopt a command-and-control style are likely to undermine the very norm they seek to promote.

293 See Hall et al., supra note 194.
294 The juridifying effect of mandatory disclosure rules is affected by the package of regulations in which disclosure rules are one part. Thus, a regulatory plan designed to promote fidelity to human subject safety within the research enterprise must first create a regulatory environment in which such fidelity can develop and then add disclosure rules to it. In other words, a plan that relies primarily on disclosure rules risks that disclosure may undermine the prospect for trustworthiness simply because a foundation of other trust-promoting rules is missing.
295 See supra note 253 and accompanying text for an example.
While application of these principles to the problem of financial conflicts of interest in human subjects research does not result in a definitive regulatory solution, it does suggest the shape that any regulatory plan should take. In general, any plan of reform should express a message of fidelity to human subject safety within the research enterprise. It is not sufficient to express merely that certain financial arrangements are inappropriate in the hope that the broader message of fidelity is heard. Instead, lawmakers should create a generalized standard of fidelity that applies to any potential financial conflict of interest, including corporate funding of human subjects research. Moreover, a regulatory plan must guide behavior within the research enterprise with respect to financial conflicts of interest without attempting to completely control it. Accordingly, lawmakers should continue to rely on the research enterprise to manage its financial conflicts of interest rather than placing a government agency in control. At the same time, lawmakers should enhance the accountability of researchers and research institutions for their role in policing financial conflicts of interest by making more transparent the internal process of conflict of interest management, and by creating a viable cause of action against researchers and institutions when their management system fails. Additionally, lawmakers cannot primarily rely on creating a series of prohibitions related to particular conflicts of interest. Such a plan could slip into a command-and-control style of regulation that would likely destroy any prospect for promoting trustworthiness within the research enterprise.

While the goal of this Article has been to explain the implications of a fidelity-promoting policy on the style of regulation chosen to achieve that policy, it also leads to consideration of new reforms for the regulation of financial conflicts of interest in human subjects research. The most controversial of which is likely the application of fiduciary standards of loyalty to researchers and research institutions. Even though an analysis of this proposal according to law-and-norms principles cannot fully articulate the merits and drawbacks of such a proposal, it does demand that we reconsider fiduciary law in light of current calls for increasing fidelity to human subject safety. Perhaps it is time to reexamine whether standards of negligence are sufficient to address fidelity-diminishing conduct associated with a now commercialized human research enterprise.

Furthermore, the call for law to promote trustworthiness in human subjects research, and its implications for the style of regulation employed to address financial conflicts of interest, suggests the importance of understanding the relationship between law and trust in health care. Observers of our health care system have identified the public’s lack of trust as one of the major problems facing our health care law. The less than perfect record of the health care system in providing trustworthiness and promoting trust in the medical profession is a reminder of how many different factors can influence trust in human subjects research.}

Finally, an understanding of the law’s relationship to law and trust in health care systems can help lawmakers who seek to increase public confidence in the research enterprise. Of particular importance is the potential for the law to increase public confidence in the research enterprise through law and trust in health care.

For example, the principles of trustworthiness can be added to the research enterprise. In that sense, law and trust in health care systems can help lawmakers who seek to increase public confidence in the research enterprise. Of particular importance is the potential for the law to increase public confidence in the research enterprise through law and trust in health care.

As noted at the outset of this Article, any reform of the regulatory scheme for human subjects research will necessarily exceed the bounds of this Article. Whether lawmakers ultimately find the right balance of law and trust in human subjects research to protect human subject safety remains to be seen.
financial conflicts definitory regulatory steps that should take. In fidelity to human efficient to express the need in the hope that persons should create a financial conflict of research. Moreover, each enterprise with the danger to completely rely on the research while placing a lower value on the role in the internal a viable cause of a management system fails, leading a series of steps, a plan could slip and likely destroy any enterprise.

The implications of a duty to achieve the regulation of research. The most important standards of loyalty analysis of this ability to articulate the need for us to reconsider the standards of human subject protections of negligence are consistent with a now.

In human subjects employed to address and understanding the working of our health care researchers have identified the importance of trust within the system, and at least one has suggested that trust could be the unifying objective of all of health law. The lessons for using the law to promote trustworthiness in human subjects research are equally applicable to the broader objective of promoting trustworthiness among all health care professionals and institutions. If, in fact, promoting trust is the primary objective of law related to health care, then the style in which the law regulates health care must respond accordingly.

Finally, an understanding of the implications of pursuing trustworthiness through law may legitimately cause lawmakers and commentators to reconsider the goals of regulating financial conflicts of interest in human subjects research. Expressing and enforcing a broad standard of fidelity to human subject safety, which could hinder both technology transfer and private funding of human subjects research, may simply be too high a price to pay to pursue trust as a regulatory goal. If so, then we must choose a goal that is consistent with the kinds of reform we are willing to employ.

For example, economic and political reality may require that human subjects research be funded to a significant degree by corporations with commercial interests in the outcome of such research, and that researchers and research institutions be given the opportunity to profit from such research as to bring medical products to market quickly. In that case, the law might concentrate on providing adequate conflicts of interest warnings to the public and watching to see if this significantly slows the research process by diminishing the number of individuals willing to volunteer as human subjects. Rather than pursuing a goal of public trust in the human research enterprise, such a strategy would pursue something more akin to consumer protection and consumer confidence. In other words, lawmakers are obligated to employ trust-promoting regulatory strategies only if the goal of regulation is to promote public trust. Other regulatory goals that would not bind lawmakers to the trust-promoting techniques described in this Article may be justifiable.

As noted at the outset, talk of trust is everywhere, including in proposals to reform the regulation of financial conflicts of interest in human subjects research. Whether this is just talk remains to be seen. It will turn in part on whether lawmakers walk the regulatory path implied by the goal of pursuing trust in human subjects research.

296 See generally Hall, supra note 144.