Whistleblower-Initiated Enforcement Actions against Health Care Fraud and Abuse in the United States, 1996 to 2005

Aaron S. Kesselheim, MD, JD, MPH, and David M. Studdert, LLB, ScD

Federal regulators have aggressively prosecuted health care fraud since the early 1990s, leading to billions of dollars in financial recoveries. Nearly all major cases today are *qui tam* actions, involving whistleblowers with inside knowledge of the allegedly illegal schemes. This article documents the outcomes of major enforcement actions and describe the schemes, defendants, and whistleblowers involved. The authors obtained an inventory of unsealed federal *qui tam* litigation targeting health care fraud that was resolved between 1996 and 2005 from the U.S. Department of Justice and gathered further information from publicly available sources. Among 379 cases, $9.3 billion was recovered, with more than $1.0 billion paid to whistleblowers. Case frequency peaked in 2001, but annual recoveries increased sharply from 2002 to 2005. Whistleblowers were frequently executives or physicians, and 75% were employees of defendant organizations. The 13 (4%) cases against pharmaceutical companies accounted for $3.6 billion (39%) of total recoveries. This study illuminates the scope and characteristics of *qui tam* fraud litigation and the whistleblowers who animate this important tool for addressing waste in the health care sector.

Ann Intern Med. 2008;149:342-349. www.annals.org

For author affiliations, see end of text.

Increasing health care costs and financial strains on public insurance programs have highlighted the need to improve efficiency (1, 2) and reduce waste (3, 4) in health care delivery. One direct way to achieve these goals is by combating fraud and abuse, which encompasses financial misconduct associated with payment for health care services (5). The government has estimated that fraud may account for 10% of health care expenditures (6), although the empirical foundations of this figure are weak (7). Some commentators contend that losses are greater (8).

In the 1990s, the U.S. Department of Justice (DOJ) ramped up efforts to combat health care fraud (9, 10), focusing on false claims to the Medicare and Medicaid programs in particular (11). The volume of litigation and financial recoveries related to health care grew quickly (12). Much of this growth occurred among *qui tam* actions—enforcement actions initiated by whistleblowers who are private citizens with inside knowledge of the alleged fraud (13). By 2005, 90% of new health care fraud enforcement actions were initiated by whistleblowers (14, 15).

The illicit nature of health care fraud impedes research into its prevalence and cost. Few studies are available beyond descriptions of individual cases (16–19), analysis of the legal issues (20, 21), and investigations of specific organizational patterns of behavior (22). Summary statistics available in government reports aggregate recoveries by year, rather than linking them to particular cases (23). We compiled and analyzed information on the major U.S. health care fraud enforcement actions from 1996 to 2005, focusing on federal *qui tam* cases. Our objectives were to describe the case outcomes, as well as the fraudulent activities, defendants, and whistleblowers involved.

See also:

Web-Only
Conversion of graphics into slides

Background: The False Claims Act and *Qui Tam* Actions

The centerpiece of antifraud regulation is the federal False Claims Act (FCA). The FCA dates from the Civil War era and prohibits the "knowing" submission of false claims or statements to the government, which can include reckless ignorance or disregard of the truth (24). Violators face fines of $5500 to $11 000 per claim plus 3 times the damages incurred (25). The FCA has also been deployed to tackle kickbacks and illegal marketing (11).

Amendments to the FCA in 1986 served to enhance the identification of fraud by making it easier—and potentially more lucrative—for private citizen whistleblowers to bring *qui tam* actions. *Qui tam* is an abbreviation of a Latin expression meaning "he who sues for the King as well as for himself." After a whistleblower files a sealed complaint in federal court, the DOJ investigates the allegations, often in conjunction with other interested agencies. The DOJ may then elect to "intervene" and assume a lead role in the enforcement action. The DOJ generally intervenes when the evidence supports the allegations. If the government decides not to intervene, the case may remain sealed and is often dismissed.

Almost all cases with DOJ intervention result in judgments against or settlements with the defendant. This reflects both the DOJ's prosecutorial clout and the thoroughness of the investigations. Whistleblowers receive 15% to 25% of the recovery. If the government does not intervene, whistleblowers may press forward alone and retain 25% to 30%. In practice, however, solo actions rarely result in substantial recoveries (26).

Methods

Data Collection

On the basis of a search of their litigation archives, officials in the DOJ's Civil Division provided us with a list of cases that involved health care goods or services, originated from whistleblowers, were intervened on by the DOJ, were pursued under the FCA, and were closed between 1 January 1996 and 31 December 2005. To ensure completeness, we cross-checked the list with data compiled by Taxpayers Against Fraud (Washington, DC), a nongovernment organization that tracks federal fraud actions.

We gathered details on each enforcement action from publicly available sources. Major settlements and judgments are usually publicized by the DOJ itself and mainstream media outlets. We searched DOJ press releases (27) and published settlement agreements (28), judgments and settlements recorded in Westlaw (Eagan, Minnesota), and press and electronic media reports in Lexis-Nexis (Dayton, Ohio). Data were corroborated, where possible, across several sources.

Litigation Outcomes

The DOJ provided closure dates and federal recovery amounts associated with each case. Information we gathered included other penalties imposed, such as criminal charges, together with information on the value of state government recoveries and criminal fines. We also sought the amounts assigned to whistleblowers. We calculated annual case frequency and total financial recovery, converted to 2005 U.S. dollars (29).

Classification of Fraudulent Schemes, Defendants, and Whistleblowers

We classified the alleged fraud in each case into 4 nonmutually exclusive categories: improper billing; illegal marketing of the product or service, including off-label marketing of prescription drugs or devices; inappropriate financial relationships, including kickbacks; and misuse of government funds (for research or nonresearch purposes). We further sorted billing-related fraud into 7 nonmutually exclusive subcategories: upcoding (billing the government for more complex or expensive products or services than actually provided); unbundling (separating products or services that should have generated 1 claim for reimbursement into several claims); phantom billing (claims for products or services not provided); falsifying documentation; inflating prices; providing medically unnecessary products or services; and providing ineffective products or below-standard services.

We classified defendants according to the products or services they delivered and whether they were for-profit or nonprofit entities. We classified whistleblowers according to their professional role and whether they were internal employees, as opposed to external to the defendant organization (for example, a physician who sent specimens to a laboratory services company that was later investigated for fraudulent billing).

The DOJ list reflected separate enforcement actions pursued by the agency. We referred to these as "cases" for our analysis. However, some schemes spawned many enforcement actions, involved several whistleblowers or defendants, or resulted in several settlements. Our analysis of fraud types was at the scheme level, counting each scheme once, even if it produced more than 1 case. Our analysis of defendants counted individual defendants associated with each scheme. For example, fraudulent activity involving 2 hospitals and a billing company resulting in 1 settlement with the hospitals and a second (separate) settlement with the billing company was treated as 2 cases, 1 scheme, and 3 defendants (2 in the hospital category and 1 in the billing company category). The counting convention for whistleblowers followed the approach taken with defendants.

Results

From 1996 to 2005, the DOJ closed 379 health care fraud cases worth $9.3 billion. The average recovery was $24.5 million (interquartile range [IQR], $16.1 million to $32.9 million). Seventy-seven percent ($7.2 billion) was returned to the federal government in civil fines and damages, and 9% ($861 million) was returned to state governments. Criminal charges in at least 75 cases led to an additional $1.2 billion in fines.

Case volume peaked in 2001 and declined thereafter (**Figure**). However, total recoveries increased sharply from 2002 to 2005 because of an increase in the average recovery amount per case. **Table 1** describes the largest settlement against each of the 12 main defendant types.

Whistleblowers and Fraudulent Activity

Whistleblower recoveries averaged $3.6 million (IQR, $2.1 to $5.1 million), and approximately $1 billion was returned to whistleblowers. This total is an underestimate because it is based on the 72% (274 of 379) of cases with available information. Whistleblowers came from various professional backgrounds (**Table 2**). The leading roles were executives and physicians. Among those whose affiliation

Figure. **Trends in the annual frequency and recovery value of federal *qui tam* enforcement actions targeting health care fraud, 1996 to 2005.**

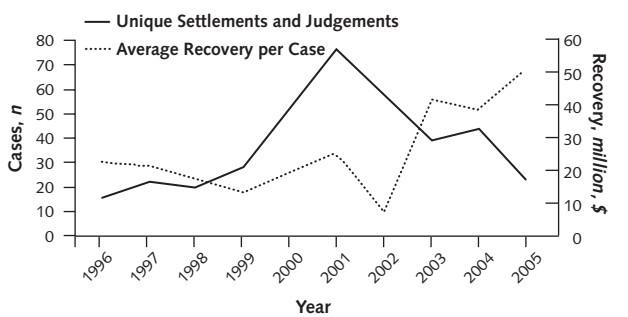

Table 1. **Largest Fraud Recovery against Each Type of Defendant Organization**

Defendant Organization (Type)	Case Closure Date	Total Recovery, *million $**	Alleged Fraud	Whistleblower	Whistleblower Recovery, *million $*
TAP Pharmaceutical Products, Lake Forest, IL (pharmaceutical manufacturer)	December 2001	875.0	Overcharging for leuprolide. TAP provided the drug to urologists free or at heavily discounted prices and encouraged urologists to bill Medicare at a higher price. Difference between the discounted price and Medicare reimbursement rate marketed as an inducement to prescribe.	A urologist-administrator at a private health insurer, the insurer itself, and a vice president of sales at TAP	95.0
Hospital Corporation of America, Nashville, TN (health system)	August 2001	840.0	Claims for medically unnecessary laboratory services, upcoding, marketing, and advertising costs disguised as "community education"; nonreimbursable costs incurred in the purchase of home health agencies; and billing for home health visits that were medically unnecessary or not done.	Several, including executives, 2 physicians, and an internal financial auditor	71.5
SmithKline Beecham Clinical Laboratory, Collegeville, PA (laboratory services provider)	February 1997	334.0	Bundled standard blood tests with additional tests. Physicians ordered additional tests only because they were marketed as a package with other tests judged medically necessary. Laboratory then unbundled tests for billing purposes.	A billing-systems employee, a pathologist-administrator, 2 sales representatives, and a third-party attorney	54.0
HealthSouth, Birmingham, AL (long-term care facility chain)	December 2004	325.0	Improper reimbursement claims, including claims for excessive units of therapy, services provided by unlicensed providers, services not part of a properly certified plan of care, and medically unnecessary admissions. Submitted unallowable costs (e.g., skilled labor added to the prices of products and entertainment and travel costs for meeting at Walt Disney World Resort).	2 patients, an accountant, a third-party accounting firm, and 2 others	13.2
Blue Cross Blue Shield of Illinois, Chicago, IL (managed care organization)	July 1998	137.5	Falsified records for physicians' office visits charged to Medicare and failed to apply correct billing rules to submitted claims. Shredded 10 000 unprocessed claims to back assertion that they were never received.	Former mailroom supervisor and her attorney	29.1
Redding Hospital, Redding, CA (hospital)	August 2003	63.0	Physicians did medically unnecessary cardiac procedures and submitted false claims for them.	An internist, a patient, and a third-party accountant	9.9
Lifescan, Milpitas, CA (durable medical equipment company)††	December 2000	60.2	Marketed a misbranded and adulterated medical device (SureStep, a blood glucose monitoring system) that had design flaws concealed from the. U.S. Food and Drug Administration. Submitted claims for reimbursement for the product.	2 employees: a pathologist (former director of research) and a chemist-executive	6.3

Table 1—Continued

Defendant Organization (Type)	Case Closure Date	Total Recovery, *million $**	Alleged Fraud	Whistleblower	Whistleblower Recovery, *million $*
Tenet Home Care, Dallas, TX (home health care provider)	July 2002	29.0	False claims for reimbursement pertaining to services not rendered or rendered by unlicensed personnel. Claims based on insufficient, forged, or missing documents. Capital-related operating costs were misallocated. Unallowable fees from a related company were submitted, and the nature of the relationship with that company was not disclosed.	Nurse-employee	4.0
American Medical Response, Greenwood Village, CO (ambulance company)	June 2002	20.0	False claims for transportation not medically necessary. Patients reported to be confined to bed, but there was no evidence to support the statement or that the company knew patients were ambulatory. Signatures of physicians or nurses on claim forms were forged by using such names as "Donald Duck."	2 employees in the billing department	3.8
Emergency Physicians Billing Services, Oklahoma City, OK (billing company)	October 1997	15.0	Upcoded claims, billing for more extensive services than those provided.	Nurse-employee	3.2
Eckerd, Largo, FL (pharmacy chain)	June 2002	10.7	Dispensed partial prescriptions but billed for full prescriptions.	Pharmacist-employee	0.9
Oncology Associates, State College, PA (physician practice)	October 2003	10.0	Claims for reimbursement for radiation oncology services not provided and services that were unnecessary. Misrepresented services rendered to obtain higher and double reimbursements.	Radiation-oncologist employee	1.7

* Total recovery includes criminal fines and non-*qui tam*–related recoveries linked to the same cases.

with the defendant was publicly reported (226 of 339), approximately three quarters were internal employees.

Among the 86% (188 of 218) of cases in which we could classify the type of fraud, health-related services were more than 3 times as likely as medical products to be involved. Billing fraud was most common, particularly billing for medically unnecessary services, falsifying documentation, and billing for services not provided (**Table 2**).

Defendants

Nearly two thirds (224 of 352) of the defendants were directly involved in health care delivery (**Table 3**). Hospitals (29%) and physician practices (14%) were the leading types, followed by billing companies (9%) and health systems (8%). More than half (57% [16 of 28]) of the defendant health systems and one third (33% [34 of 103]) of the hospitals were for-profit entities.

Despite making up only 4% (13 of 352) of defendants, pharmaceutical manufacturers accounted for 39% ($3.6 billion) of total recoveries, averaging $257 million per recovery. Health care systems accounted for 21% ($1.9 billion) of total recoveries, averaging $50 million per recovery. Conversely, nearly one third of cases named hospitals as defendants, but settlements and judgments against them accounted for only 3% ($270 million) of total recoveries at an average of $2.1 million per recovery. **Table 4** describes several recent cases involving hospitals, medical practices, and physicians.

In addition, the profile of defendants changed over time. Earlier in the study, laboratory service providers, hospitals, durable medical equipment, and physician groups predominated. By the end of the study, billing organizations and pharmaceutical manufacturers made up nearly 25% of cases.

Discussion

This study describes the characteristics and outcomes of federal enforcement actions for health care fraud during the past decade. Among the 379 cases, the most common targets were provider organizations and billing practices, particularly for false documentation and billing for medi-

Table 2. **Characteristics of Whistleblowers and Prosecuted Schemes**

Characteristic	Frequency, *n (%)*
Whistleblower*	
Professional role	
Administrator or executive	48 (20)
Physician	29 (12)
Pharmacist	8 (3)
Other health care provider†	25 (10)
Patient	5 (2)
Sales representative	22 (9)
Internal accountant	25 (10)
Unaffiliated auditor or consultant	30 (12)
Employee (not otherwise specified)	51 (21)
Affiliation‡	
Internal to defendant organization	176 (72)
External to defendant organization	50 (21)
Total whistleblowers identified	243
Nature of alleged fraud§	
Improper billing	172 (91)
Upcoding	27 (14)
Unbundling	16 (9)
Phantom billing	45 (24)
Falsifying documentation	54 (29)
Inflating price	39 (21)
Providing medically unnecessary care	59 (31)
Delivering a substandard or ineffective service or product	36 (19)
Illegal marketing	15 (8)
Inappropriate financial relationship	45 (26)
Kickback	30 (16)
Other	20 (11)
Misuse of government funds	6 (3)
Total fraudulent schemes identified	188

* A total of 339 whistleblowers were affiliated with the 379 cases, but descriptive information was not available for 96 (28%) of the whistleblowers.
† Includes nurses, counselors, and other licensed health professionals.
‡ We could not find affiliations for 113 (33%) whistleblowers because of insufficient information about the relationship between some health care providers and the defendant organization.
§ Values do not sum to 100% because a single scheme could encompass more than 1 category. Information was insufficient to classify fraud type in 30 other schemes (14% [30 of 218]).

cally unnecessary services. However, the complexion of the litigation changed after 2002. The frequency of cases decreased, but total and average recovery amounts increased sharply, primarily because of a series of massive recoveries against a relatively late addition to the cast of defendants—pharmaceutical manufacturers.

A striking feature of the enforcement actions against pharmaceutical manufacturers is their average dollar value. Although only 4% (13 of 352) of the sample, they accounted for nearly 40% of the total monetary recovery. Part of the explanation for their high value relates to market size. Because most pharmaceutical manufacturers have national operations and damages are calculated on a per-claim basis, there may be huge multipliers on fraudulent practices in this sector. The most common type of scheme attacked in these cases was improper billing that led government payers, such as Medicaid, to overpay for prescription drugs by artificially inflating the "best price" the manufacturer offered to other purchasers. Another common scheme was improper marketing of prescription drugs for uses not approved by the U.S. Food and Drug Administration.

Since the late 1990s, enforcement actions against both pharmaceutical manufacturers and medical billing companies have become more common. Substantial increases in spending on prescription drugs and greater outsourcing to billing companies occurred during the same period. Fraud and abuse may be heightened during periods of rapid market expansion, but closer government oversight may also be a factor. For example, federal interest in fraud by pharmaceutical companies may have been spurred by increased public attention on the substantial revenues they earn (30) and the Medicare Modernization Act (31), which deepened federal government concerns about prescription drug costs.

By contrast, the number of physician groups, hospitals, and laboratory service companies serving as defendants declined during the study. Deterrence may be a contributing factor. Becker and colleagues (32) linked enforcement activity with variations in Medicare claims for 6 illnesses perceived to be prone to abuse and demonstrated a relationship between stepped-up enforcement and changes in billing practices. Exposure of certain schemes in publicized judgments or settlements may provide clarification that they are illegal and prompt wider changes in business practices. Another explanation relates to enforcement strategy. The DOJ may target certain activities and sectors for set periods and then move on to others (33). For example, because the DOJ is faced with limited resources, enforcement actions against hospitals, which accounted for 29% of defendants but returned only 3% of recoveries, may be

Table 3. **Frequency of Enforcement Actions and Size of Total Recoveries, by Defendant Organization**

Defendant Organization	Frequency (*n* = 352), *n (%)**	Recovery Amount, *million $ (%)*
Hospital	103 (29)	270 (3)
Physician practice or individual physician group	51 (14)	464 (5)
Billing company	32 (9)	80 (1)
Health system	28 (8)	1903 (21)
Medical equipment company	22 (6)	362 (4)
Laboratory services provider	20 (6)	1053 (11)
Other health care–related organization	19 (6)	169 (2)
Long-term care facility or chain	16 (5)	702 (8)
Home health care provider	15 (4)	107 (1)
Managed care or pharmacy benefit manager	14 (4)	466 (5)
Pharmaceutical manufacturer	13 (4)	3601 (39)
Ambulance medical transportation company	8 (2)	26 (<1)
Pharmacy or pharmacy chain	8 (2)	38 (<1)

* Three defendant organizations, accounting for $8 million in recoveries, could not be classified because of insufficient information.

Table 4. **Recent Cases in Sample Involving Physician or Hospital Defendants**

Defendant	Case Closure Date	Total Recovery, $*	Alleged Fraud	Whistleblower	Whistleblower Recovery, $
Hospital in Georgia	August 2005	800 000	Submitted claims for inpatient hospital stays that were not supported by records.	Software company that analyzes hospital billing practices	112 000
Medical center in Ohio	January 2005	2 750 000	Billed for "observation services" for patients who did not qualify for reimbursement	Social worker at the hospital	500 000
Hospital and associated rehabilitation unit in Louisiana	September 2004	30 000	Improperly delayed transfer to rehabilitation unit to maximize reimbursement for patient stay.	Physician	7500
2 hospitals in Texas and 1 hospital in Florida	October 2004	20 600 000	Created false physician certification about the medical necessity of ambulance transports operated by the hospitals and falsified transport-related patient diagnosis records. If a physician refused to sign the medical necessity form, presigned forms were used.	2 emergency medical technicians employed by the hospitals	2 400 000
Anesthesiologist and nurse-anesthetist group in Florida	July 2004	295 000	Submitted claims for medical direction when the anesthesiologists were supervising >4 concurrent anesthesia services, contrary to government regulations.	Practice administrator	49 000
Hospital in Georgia	June 2004	1 590 000	Kickbacks for referrals of patients.	Former employee	405 000
Radiology service provider in Florida	May 2004	2 585 500	Billed for services not provided or not ordered by referring physician, and upcoded billing for less complicated procedures to get higher reimbursements.	Former employee	445 000

* Total recovery includes criminal fines and non-*qui tam*–related recoveries linked to the same cases.

forgone in favor of more lucrative litigation against pharmaceutical manufacturers. In theory, such strategic choices could operate independently of the actual incidence of fraud on the ground.

The federal FCA includes a strict prohibition on retaliatory action against whistleblowers, such as demotions or terminations (34), and the DOJ is charged with policing it. However, the cases we analyzed frequently included descriptions of the considerable pressures put on whistleblowers and the many unpleasant experiences they faced after helping initiate DOJ enforcement actions. For example, 1 physician-whistleblower reported that his hospital employer fired him and then prevented him from informing his patients of his relocation (35). The ongoing viability of the *qui tam* model depends on the willingness of whistleblowers to come forward. The federal government recently passed legislation requiring larger health care companies to educate their employees about FCA protections for whistleblowers (36). Leaders of organizations targeted by whistleblower actions should make clear that retaliation is illegal and unethical; they could also take steps to prevent retaliation, such as acting promptly to comply with DOJ investigations and secreting details of cases from all but those within the organization who need to know (37).

The FCA enforcement actions seem to be an efficient method of combating health care fraud, at least from the government's perspective. One study calculated that the government receives $15 in recoveries for every $1 invested in investigation and litigation (38). Currently, 16 states and 3 cities have versions of the federal FCA (39), and other jurisdictions are considering similar laws to expand authority of fraud and abuse that affect state or local expenditures (40). Recent federal legislation provides an additional incentive: States enacting *qui tam* provisions that are at least as effective as the federal FCA will receive an extra 10% of Medicaid fraud recoveries (36). Some commentators have worried that overly aggressive enforcement of the FCA in the health field (41) may lead organizations to initiate unnecessary and costly defensive practices or entice whistleblower allegations that are weak, vindictive, or otherwise illegitimate (42, 43). Recent reports suggest that the federal government rejects about 75% of the cases it receives (44). With data on hundreds of *qui tam* actions, research is needed to identify predictors of allegations that turn out to be legitimate and fruitful. Such information would help prevent the reputational harm to those improperly accused of misconduct and could help maximize the effect of prosecutorial resources, for example, by allowing the DOJ to fast-track cases with many positive predictors.

Our study has several limitations. First, our sample does not capture all fraud cases. Some non–*qui tam* enforcement actions of health care fraud persist, albeit in

dwindling numbers, some states pursue their own litigation, and the DOJ's limited resources tend to restrict its focus to cases in which substantial recoveries are at stake. We had no access to complaints that are sealed or the rare enforcement action that is dismissed after DOJ intervention. Second, there are time lags between filing of whistleblower complaints and resolution of enforcement actions, which would affect trends seen in our data if the lags differed systematically across case types. Third, our analysis lacked descriptive information on approximately 28% of whistleblowers and 16% of fraudulent schemes. The missing data affect our estimates of total returns to whistleblowers but are unlikely to have had a substantial effect on the mix of case characteristics. If the proportion of recoveries retained by whistleblowers with missing data was equivalent to the proportion retained by the rest, the total transferred to whistleblowers in our sample would increase to $1.2 billion.

Despite these limitations, our data provide insight into the *qui tam* approach of targeting health care fraud, a mechanism that federal regulators have increasingly used to recoup losses and deter illegal activity. As government health budgets grow and the stresses on them mount, *qui tam* fraud and abuse litigation seems set to continue to play a pivotal role in helping state and federal regulators control inefficient spending.

From Brigham and Women's Hospital, Boston, Massachusetts, and University of Melbourne, Melbourne, Victoria, Australia.

Disclaimer: This study was not submitted for institutional review board review because it is based on publicly available data and involved no health records (45 Code of Federal Regulations [CFR] 46.102).

Acknowledgment: The authors thank Sarah Weston, Ilina Chaudhuri, Rehana Gubin, and Jonathan Vance for their research assistance.

Grant Support: By an Agency for Healthcare Research and Quality Post-Doctoral Fellowship in Health Services Research at the Harvard School of Public Health (Dr. Kesselheim).

Potential Financial Conflicts of Interest: None disclosed.

Requests for Single Reprints: Aaron S. Kesselheim, MD, JD, MPH, Division of Pharmacoepidemiology and Pharmacoeconomics, 1620 Tremont Street, Suite 3030, Boston, MA 02120; e-mail, akesselheim@partners.org.

Current author addresses are available at www.annals.org.

References

1. **Garber A, Goldman DP, Jena AB.** The promise of health care cost containment. Health Aff (Millwood). 2007;26:1545-7. [PMID: 17978370]
2. **Iglehart JK.** Medicaid revisited–skirmishes over a vast public enterprise. N Engl J Med. 2007;356:734-40. [PMID: 17301307]
3. **Department of Health and Human Services, Office of Inspector General.** Protecting Public Health and Human Services Programs: A 30-Year Retrospective. Washington D.C.: Department of Health and Human Services; 2006. Accessed at http://oig.hhs.gov/publications/docs/retrospective/AnniversaryPub.pdf on 21 May 2008.
4. **Rabecs RN.** Health care fraud under the new Medicare Part D prescription drug program. J Crim Law Criminol. 2006;96:727-56.
5. **Davies SL, Jost TS.** Managed care: placebo or wonder drug for fraud and abuse. Georgia Law Rev. 1997;31:373-17.
6. **U.S. General Accounting Office.** Health Insurance: Vulnerable Payers Lose Billions to Fraud and Abuse. Publication no. GAO/HRD-92-69. Washington, DC: U.S. General Accounting Office; 1992.
7. **Hyman DA.** HIPAA and health care fraud: an empirical perspective. Cato J. 2002;22:151-78.
8. **Sparrow MK.** License to Steal: How Fraud Bleeds America's Health Care System. Denver: Westview Pr; 2000.
9. **Sage WM.** Fraud and abuse law [Editorial]. JAMA. 1999;282:1179-81. [PMID: 10501124]
10. **Krause J.** "Promises to keep": health care providers and the civil false claims act. Cardozo Law Rev. 2002;23:1363-1417.
11. **Kalb PE.** Health care fraud and abuse. JAMA. 1999;282:1163-8. [PMID: 10501120]
12. **Jost TS, Davies SL.** The empire strikes back: a critique of the backlash against fraud and abuse enforcement. Ala Law Rev. 1999;51:239-309.
13. **Bucy PH.** Private justice. South Calif Law Rev. 2002;76:1-160.
14. **Civil Division, U.S. Department of Justice.** Fraud statistics. November 2006. Accessed at www.taf.org/stats-fy2006.pdf on 21 May 2008.
15. **Stanton TH.** Fraud-and-abuse enforcement in Medicare: finding middle ground. Health Aff (Millwood). 2001;20:28-42. [PMID: 11463088]
16. **McKoy JM, Lyons EA, Obadina E, Carson K, Pickard AS, Schellhammer P, et al.** Caveat medicus: consequences of federal investigations of marketing activities of pharmaceutical suppliers of prostate cancer drugs. J Clin Oncol. 2005;23:8894-905. [PMID: 16314650]
17. **Satiani B.** Invited commentary: the whistle-blower act (qui tam). Surgery. 2005;137:472-6. [PMID: 15800497]
18. **Klein RD, Campbell S.** Health care fraud and abuse laws. Arch Pathol Lab Med. 2006;130:1169-77. [PMID: 16879018]
19. **Smith JJ, Berlin L.** Medicare fraud and abuse. AJR Am J Roentgenol. 2003; 180:591-5. [PMID: 12591659]
20. **Barger JF Jr, Bucy PH, Eubanks MM, Raspanti MS.** States, statutes, and fraud: an empirical study of emerging state False Claims Acts. Tulane Law Rev. 2005;80:465-88.
21. **Krause JH.** A conceptual model of health care fraud enforcement. Brooklyn Journal of Law and Policy. 2003;12:55-147.
22. **Silverman E and Skinner J.** Are For-Profit Hospitals Really Different? NBER Work Paper no. 8133. Cambridge, MA: National Bureau of Economic Research; February 2001.
23. **U.S. General Accounting Office.** Information on False Claims Act Litigation. Publication no. GAO-06-320R. Washington, DC: U.S. General Accounting Office; 2006. Accessed at www.gao.gov/new.items/d06320r.pdf on 21 May 2008.
24. **Holder EH Jr.** Memo: guidance on the use of the False Claims Act in civil health care matters. 3 June 1998. Accessed at www.usdoj.gov/dag/readingroom/chcm.htm on 21 May 2008.
25. Federal False Claims Act, 31 U.S.C. §§ 3729-3733 (2006).
26. **Boese JT.** Civil False Claims and Qui Tam Actions. 3rd ed. New York: Aspen Law & Business; 2006.
27. **U.S. Department of Justice.** Office of Public Affairs Press Releases. Accessed at www.usdoj.gov/03press/03_1_1.html on 21 May 2008.
28. **Civil Division, U.S. Department of Justice.** Electronic Reading Room. Accessed at www.usdoj.gov/civil/Electronic%20Reading%20Room.htm on 21 May 2008.
29. **U.S. Department of Labor, Bureau of Labor Statistics.** Consumer Price Indexes. Accessed at www.bls.gov/cpi on 21 May 2008.
30. **Avorn J.** Powerful Medicines: The Benefits, Risks, and Costs of Prescription Drugs. New York: Knopf; 2005.
31. Medicare Prescription Drug Improvement and Modernization Act of 2003 (Pub. L. No. 108-173).
32. **Becker D, Kessler D, McClellan M.** Detecting Medicare abuse. J Health Econ. 2005;24:189-210. [PMID: 15617794]
33. **Hennessy-Fiske M.** Feds fight Medicare fraud; officials in LA are to announce a nationwide effort to crack down on equipment suppliers. Los Angeles Times. 8 January 2008:B1.

34. Federal False Claims Act, 31 U.S.C. § 3730(h) (2006).
35. **Albert T.** Doctor wins $30 million from hospital in slander lawsuit. American Medical News. 27 January 2003:12.
36. Deficit Reduction Act of 2005 § 6032, Pub. L. No. 109-171 (2006) [to be codified at 42 U.S.C. § 1396a(a)(68)].
37. **Lubalin JS, Matheson JL.** The fallout: what happens to whistleblowers and those accused but exonerated of scientific misconduct? Sci Eng Ethics 1999;5: 229-50.
38. **Meyer JA.** Fighting Medicare fraud: more bang for the federal buck. Washington, DC: Taxpayers Against Fraud; 2006. Accessed at www.taf.org/publications%5Cpdf%5Cfightingmedicarefraud.pdf on 21 May 2008.
39. **Taxpayers Against Fraud.** State False Claims Acts. Accessed at www.taf.org/statefca.htm on 21 May 2008.
40. State false claims: congress uses budget bill to persuade states to enact state qui tam laws. Fried Frank FraudMail Alert no. 06-02-08. New York: Fried, Frank, Harris, Shriver & Jacobson LLP; 2006. Accessed at www.ffhsj.com/siteFiles/ffFiles/fm060208.pdf on 21 May 2008.
41. **U.S. General Accounting Office.** Application of the False Claims Act to hospital billing practices. Publication no. GAO/HEHS-98-195. Washington, DC: U.S. General Accounting Office; 1998. Accessed at www.gao.gov/archive/1998/he98195.pdf on 21 May 2008.
42. **Matthew DB.** The moral hazard problem with privatization of public enforcement: the case of pharmaceutical fraud. Univ Mich J Law Reform. 2007;40: 281-339.
43. **Weinberg N.** The dark side of whistleblowing. Forbes. 14 March 2005: 90-99.
44. **Johnson C.** A backlog of cases alleging fraud; whistle-blower suits languish at justice. Washington Post. 2 Jul 2008:A1.

Current Author Addresses: Dr. Kesselheim: Division of Pharmacoepidemiology and Pharmacoeconomics, 1620 Tremont Street, Suite 3030, Boston, MA 02120.
Dr. Studdert: University of Melbourne Law School, Suite 0737, Victoria 3010, Australia.