

Fraud and Abuse in Healthcare Claims

Fraud and abuse in healthcare claims are widespread in the U.S. healthcare system. They sap 8-15% of annual health expenditures. The FBI has estimated that fraud alone accounts for 3-10% of health expenditures.¹ Numerous empirical studies have found abuse in claims through upcoding, code creep, and the proliferation of codes, exhausting another 5-10% of our annual health expenditures.² International experience has shown that a single-payer system can vastly reduce fraud and abuse in claims by leveraging a uniform data system.³ In estimating the cost of a unified financing system, the consultants must take the potential savings from reducing fraud and abuse into account.

What is fraud and abuse in healthcare claims?

Healthcare fraud is a legal term referring to when providers intentionally bill payers for services that were not rendered or that were rendered under false pretenses, to no defensible medical purpose. While some frauds involve the forgery of medical records documenting care never delivered, others involve kickbacks to providers from health technology or pharmaceutical companies for improper prescribing behavior. For instance, there have been a number of recent cases in which telemedicine companies paid compliant physicians to prescribe unnecessary drugs to patients through designated pharmacies, which then gave the telemedicine companies kickbacks for these prescriptions. The Department of Justice prosecuted more than \$6 billion of healthcare fraud in 2020.⁴

Abuse in claims comes in a variety of forms. The most common variety is upcoding, which refers to when providers intentionally bill payers for more intensive care than their patient genuinely needed. For example, providers may round an infant's birthweight down so that their neonatal care will be more highly remunerated or round the duration of a cancer patient's chemotherapy infusion up for the same reason.⁵ Even long-term care hospital discharges cluster just past coding thresholds.⁶ Code creep refers to the ambiguities in defining codes when medical services are individual personal services with variation and complicity. Providers learn over time and take advantage of ambiguities in code definitions, coding strategically to gain higher payment. Colleges offer degrees in medical coding, and even physicians often enroll in courses to learn how to optimize their coding.⁷ Under risk-adjusted capitation payment, health plans upcode enrollees into higher risk classes to gain higher payments.⁸ For example, health plans may round down a child's age to garner a higher capitation rate.

Moreover, providers have successfully pushed for expansions in the number of billing codes to increase their revenue. Since 1987, the 473 DRG codes used for inpatient hospital services have proliferated to close 1,000.⁹ The CPT codes for physician services have proliferated from around 3,500 in the 1960s to well over 10,000.¹⁰ The proliferation of billing codes has allowed providers to receive more compensation for delivery of the same services.

How much fraud and abuse is there in the US healthcare system?

In the prior section, we noted that the FBI has estimated that 3-10% of national healthcare expenditures are attributable to fraud.¹¹ Sophisticated kickback arrangements between prescribing physicians and pharmacies or laboratories are regularly prosecuted.¹² Fraudulent claims by nursing homes and home health services frequently capture newspaper headlines.¹³ However, the Department of Justice can only identify and prosecute a small fraction of the total fraud burden due to resource constraints and the frequent need for whistleblower testimony to advance these cases through the legal system.¹⁴

As for upcoding, CMS issues an annual report on “improper payments” by Medicare. In 2020, these amounted to 6-7% of Medicare expenditures.¹⁵ However, this could either overestimate or underestimate actual upcoding. It could be an overestimate because payments that lack adequate documentation for any reason are classified as improper, or it could be an underestimate because upcoding is often accompanied by adequate documentation.¹⁶

There are numerous academic studies of abuses in claim billing. In general, they have identified upcoding ranging from 5-15% of expenditures.¹⁷ For example, Brunt found that 15.7% of Medicare expenditures on “general office visits” may be attributable to upcoding, and Bastani et al. found that hospitals routinely misrepresent hospital-acquired infections as present on admission in coding so as to maximize their payment.¹⁸ However, studies such as these are typically limited in scope to a specific program, medical service, or period, making it difficult use them to reach a precise estimate of upcoding system-wide. As for code creep, Cook and Averett found that when CMS approved an expansion of DRG codes in 2007, it resulted in a 3% increase in Medicare hospital expenditures due to additional upcoding.¹⁹

The new medical billing industry presents indirect evidence of the practice of upcoding. Medical billing companies take over the billing process for providers in exchange for fees totaling as much as 10% or more of revenue collected.²⁰ They justify their price with their expertise in gaming the coding system. For instance, they advise providers on how to record clinical information so as to justify more lucrative coding. This memorandum cites over a dozen academic sources documenting the extent of upcoding, code creep, and additional expenditures attributable to the proliferation of billing codes in the U.S. healthcare system.

In Medicare Advantage and other risk-adjusted capitation health plans, upcoding to inflate risk scores (and associated reimbursement) is well-documented in the scholarly literature.²¹ For example, Geruso and Layton found that this has been responsible for 6-16% increases in the risk scores of Medicare Advantage enrollees, costing Medicare \$2.4 billion in 2014.²² More importantly, the capitation rates for these plans are computed based on expected expenditures in the fee-for-service payment system. Thus, healthcare expenditures attributable to fraud and abuse push up capitation rates, allowing Medicare Advantage companies to pull in higher profits.

In sum, we estimate a plausible lower bound of U.S. healthcare expenditures due to fraud and abuse around 8% and an upper bound around 15%, consisting of 3-10% attributable to fraud in healthcare claims, combined with 5-10% attributable to upcoding, code creep, the proliferation of codes, and risk-adjustment enhancement for capitation rates.

How much could a single-payer system reduce fraud and abuse in claims?

Under a single-payer system, it would create a unified electronic medical record database with all clinical and claim data coded uniformly. Such a comprehensive database would be a powerful tool with which to detect fraud and abuse in claims. First, because the database would give a complete profile of each provider's billed services, it could be used to screen each provider's total claims for reasonableness, picking out potential fraud. For example, the Taiwanese and Canadian national health insurance programs have been able to identify physicians billing for more than 100 hours of patient care per week. Already, we have research showing that around 3% of active physicians in the U.S. bill Medicare Part B for more than 100 hours of work per week; if we could combine that Medicare data with claims submitted to other payers, we could identify far more.²³ We could also easily detect nursing homes' claims for care in excess of their bed capacity. To identify potential upcoding and code creep, Taiwan and other single-payer nations have developed sophisticated statistical tools, which they apply to their unified claims data. When they pick up outliers, they pass the results of their analysis on to medical professional review committees, which—through the use peer pressure and sanctions—have vastly controlled the extent of upcoding. In just the first two years after Taiwan transitioned to single-payer, this approach allowed its health system to cut total healthcare expenditures by 8% through reductions in fraud and abuse.²⁴ Today, advancements in artificial intelligence might allow a single-payer system in the U.S. to reduce expenditures by even more.²⁵

¹ "Financial Crimes Report to the Public," government report (Washington, DC: Federal Bureau of Investigation, Criminal Investigative Division, Financial Crimes Section, September 30, 2011), <https://www.fbi.gov/file-repository/stats-services-publications-financial-crimes-report-2010-2011-financial-crimes-report-2010-2011.pdf/view>; Lewis Morris, "Combating Fraud In Health Care: An Essential Component Of Any Cost Containment Strategy," *Health Affairs* 28, no. 5 (September 2009): 1351–56, <https://doi.org/10.1377/hlthaff.28.5.1351>.

² Christopher S. Brunt, "CPT Fee Differentials and Visit Upcoding under Medicare Part B," *Health Economics* 20, no. 7 (July 2011): 831–41, <https://doi.org/10.1002/hec.1649>; John R. Bowlblis and Christopher S. Brunt, "Medicare Skilled Nursing Facility Reimbursement and Upcoding," *Health Economics* 23, no. 7 (July 2014): 821–40, <https://doi.org/10.1002/hec.2959>; Amanda Cook and Susan Averett, "Do Hospitals Respond to Changing Incentive Structures? Evidence from Medicare's 2007 DRG Restructuring," *Journal of Health Economics* 73 (September 2020): 102319, <https://doi.org/10.1016/j.jhealeco.2020.102319>; Liran Einav, Amy Finkelstein, and Neale Mahoney, "Provider Incentives and Healthcare Costs: Evidence From Long-Term Care Hospitals," *Econometrica* 86, no. 6 (2018): 2161–2219, <https://doi.org/10.3982/ECTA15022>; Leemore S. Dafny, "How Do Hospitals Respond to Price Changes?," *American Economic Review* 95, no. 5 (November 1, 2005): 1525–47, <https://doi.org/10.1257/000282805775014236>; Eric E. Seiber, "Physician Code Creep: Evidence in Medicaid and State Employee Health Insurance Billing," *Health Care Financing Review* 28, no. 4 (2007): 83–93;

Grace M. Carter, Joseph P. Newhouse, and Daniel A. Relles, "How Much Change in the Case Mix Index Is DRG Creep?," *Journal of Health Economics* 9, no. 4 (January 1990): 411–28, [https://doi.org/10.1016/0167-6296\(90\)90003-L](https://doi.org/10.1016/0167-6296(90)90003-L).

³ William C. Hsiao, Shou-Hsia Cheng, and Winnie Yip, "What Can Be Achieved with a Single-Payer NHI System: The Case of Taiwan," *Social Science & Medicine* 233 (July 2019): 265–71, <https://doi.org/10.1016/j.socscimed.2016.12.006>.

⁴ "National Health Care Fraud and Opioid Takedown Results in Charges Against 345 Defendants Responsible for More than \$6 Billion in Alleged Fraud Losses," press release, Justice News (Washington, DC: U.S. Department of Justice, Office of Public Affairs, September 30, 2020), <https://www.justice.gov/opa/pr/national-health-care-fraud-and-opioid-takedown-results-charges-against-345-defendants>; "National Telefraud Takedown: The Alleged

Scheme and Key Players,” public awareness campaign (Washington, DC: U.S. Department of Health and Human Services, Office of the Inspector General, September 2020), https://oig.hhs.gov/documents/root/232/telemed-scheme-print_CkIjttht.pdf.

⁵ Philip Hochuli, “Losing Body Weight for Money: How Provider-side Financial Incentives Cause Weight Loss in Swiss Low-birth-weight Newborns,” *Health Economics* 29, no. 4 (April 2020): 406–18, <https://doi.org/10.1002/hec.3991>; Hendrik Jürges and Juliane Köberlein, “What Explains DRG Upcoding in Neonatology? The Roles of Financial Incentives and Infant Health,” *Journal of Health Economics* 43 (September 2015): 13–26, <https://doi.org/10.1016/j.jhealeco.2015.06.001>; Elisabeth Rosenthal, “Those Indecipherable Medical Bills? They’re One Reason Health Care Costs So Much,” *The New York Times*, March 29, 2017, sec. Magazine, <https://www.nytimes.com/2017/03/29/magazine/those-indecipherable-medical-bills-theyre-one-reason-health-care-costs-so-much.html>.

⁶ Yan S. Kim et al., “Medicare Payment Policy Creates Incentives For Long-Term Care Hospitals To Time Discharges For Maximum Reimbursement,” *Health Affairs* 34, no. 6 (June 2015): 907–15, <https://doi.org/10.1377/hlthaff.2014.0778>; Paul J. Eliason et al., “Strategic Patient Discharge: The Case of Long-Term Care Hospitals,” *American Economic Review* 108, no. 11 (November 1, 2018): 3232–65, <https://doi.org/10.1257/aer.20170092>; Einav, Finkelstein, and Mahoney, “Provider Incentives and Healthcare Costs.”

⁷ Rosenthal, “Those Indecipherable Medical Bills?”

⁸ Michael Geruso and Timothy Layton, “Upcoding: Evidence from Medicare on Squishy Risk Adjustment,” *Journal of Political Economy* 128, no. 3 (March 2020): 984–1026, <https://doi.org/10.1086/704756>.

⁹ Dafny, “How Do Hospitals Respond to Price Changes?,” “ICD-10 MS DRG Definitions Manual” (Washington, DC: U.S. Centers for Medicare & Medicaid Services, 2021), https://www.cms.gov/icd10m/version39.0-fullcode-cms/fullcode_cms/P0377.html.

¹⁰ “CPT® Codes, Then and Now,” *American Medical Association* (blog), August 4, 2015, <https://www.ama-assn.org/practice-management/cpt/cpt-codes-then-and-now>; William T. Thorwarth, “From Concept to CPT Code to Compensation: How the Payment System Works,” *Journal of the American College of Radiology* 1, no. 1 (January 2004): 48–53, [https://doi.org/10.1016/S1546-1440\(03\)00020-6](https://doi.org/10.1016/S1546-1440(03)00020-6).

¹¹ “Financial Crimes Report to the Public.”

¹² “National Health Care Fraud and Opioid Takedown Results in Charges Against 345 Defendants Responsible for More than \$6 Billion in Alleged Fraud Losses.”

¹³ Christopher Rowland, “How One of the Largest Nursing Home Chains in Florida Could Avoid Nearly All of \$256 Million Fraud Judgment,” *The Washington Post*, September 14, 2021, sec. Business, <https://www.washingtonpost.com/business/2021/09/14/nursing-home-bankruptcy-fraud/>.

¹⁴ Malcolm K. Sparrow, “Fraud in the U.S. Health-Care System: Exposing the Vulnerabilities of Automated Payments Systems,” *Social Research: An International Quarterly* 75, no. 4 (2008): 1151–80, <http://muse.jhu.edu/article/527632>; Rowland, “How One of the Largest Nursing Home Chains in Florida Could Avoid Nearly All of \$256 Million Fraud Judgment.”

¹⁵ “2020 Estimated Improper Payment Rates for Centers for Medicare & Medicaid Services (CMS) Programs,” fact sheet, Newsroom (Washington, DC: U.S. Centers for Medicare & Medicaid Services, November 16, 2020), <https://www.cms.gov/newsroom/fact-sheets/2020-estimated-improper-payment-rates-centers-medicare-medicaid-services-cms-programs>.

¹⁶ “2020 Estimated Improper Payment Rates for Centers for Medicare & Medicaid Services (CMS) Programs”; Sparrow, “Fraud in the U.S. Health-Care System.”

¹⁷ Brunt, “CPT Fee Differentials and Visit Upcoding under Medicare Part B”; Bowblis and Brunt, “Medicare Skilled Nursing Facility Reimbursement and Upcoding”; Einav, Finkelstein, and Mahoney, “Provider Incentives and Healthcare Costs.”

¹⁸ Brunt, “CPT Fee Differentials and Visit Upcoding under Medicare Part B”; Hamsa Bastani, Joel Goh, and Mohsen Bayati, “Evidence of Upcoding in Pay-for-Performance Programs,” *Management Science* 65, no. 3 (March 2019): 1042–60, <https://doi.org/10.1287/mnsc.2017.2996>.

¹⁹ Cook and Averett, “Do Hospitals Respond to Changing Incentive Structures?”

²⁰ “How Much Does a Medical Billing Service Cost?,” *CostOwl.Com* (blog), June 29, 2021, <https://www.costowl.com/b2b/medical-billing-service-cost.html>.

²¹ Richard Kronick and W. Pete Welch, “Measuring Coding Intensity in the Medicare Advantage Program,” *Medicare & Medicaid Research Review* 4, no. 2 (2014), <https://doi.org/10.5600/mmrr2014-004-02-a06>.

²² Geruso and Layton, “Upcoding.”

-
- ²³ Hsiao, Cheng, and Yip, “What Can Be Achieved with a Single-Payer NHI System”; Hanming Fang and Qing Gong, “Detecting Potential Overbilling in Medicare Reimbursement via Hours Worked,” *American Economic Review* 107, no. 2 (February 1, 2017): 562–91, <https://doi.org/10.1257/aer.20160349>.
- ²⁴ Hsiao, Cheng, and Yip, “What Can Be Achieved with a Single-Payer NHI System.”
- ²⁵ Helmut Farbmacher, Leander Löw, and Martin Spindler, “An Explainable Attention Network for Fraud Detection in Claims Management,” *Journal of Econometrics*, September 2020, <https://doi.org/10.1016/j.jeconom.2020.05.021>; John T. Hancock and Taghi M. Khoshgoftaar, “Gradient Boosted Decision Tree Algorithms for Medicare Fraud Detection,” *SN Computer Science* 2, no. 4 (July 2021): 268, <https://doi.org/10.1007/s42979-021-00655-z>; Matthew Herland, Richard A. Bauder, and Taghi M. Khoshgoftaar, “Approaches for Identifying U.S. Medicare Fraud in Provider Claims Data,” *Health Care Management Science* 23, no. 1 (March 2020): 2–19, <https://doi.org/10.1007/s10729-018-9460-8>; Rohan Yashraj Gupta, Satya Sai Mudigonda, and Pallav Kumar Baruah, “A Comparative Study of Using Various Machine Learning and Deep Learning-Based Fraud Detection Models For Universal Health Coverage Schemes,” *International Journal of Engineering Trends and Technology* 69, no. 3 (March 25, 2021): 96–102, <https://doi.org/10.14445/22315381/IJETT-V69I3P216>.